TOSHIBA

FILE NO. 043-200017

SERVICE MANUAL

COLOUR TELEVISION

S0SS Chassis

50D8UXE, *50D8UXA*, *50D8UXM*
50D8UXR, *61D8UXR*

– SUMMARY –

50D8UXE, 50D8UXA, 50D8UXM, 50D8UXR, 61D8UXR are the same as 50N9UXE except for the parts tabled on back of this sheet.
Use this service manual together with the original service manual 50N9UXE, 50N9UXH, 50N9UXA, 50N9UXM (File No. 040-9909).

PRINTED IN JAPAN, Nov., 2000 Ⓣ

REPLACEMENT PARTS LIST DIFFERENCES

Location No.	Part No.	Description
A101	23411259	Cabinet (50D8UXE/UXA/UXM/UXR)
A101	23411428	Cabinet (61D8UXR)
A107	23549746	Rear Board Cover
A109	23564753	Label (50D8UXE)
A109	23564754	Label (50D8UXA)
A109	23564755	Label (50D8UXM)
A109	23564756	Label (50D8UXR)
A109	23564832	Label (61D8UXR)
A201	23540248	Bezel Proper (50D8UXE/UXA/UXM/UXR)
A201	23540273	Bezel Proper (61D8UXR)
A701	23064405	Case (50D8UXE)
A701	23064406	Case (50D8UXA)
A701	23064407	Case (50D8UXM)
A701	23064408	Case (50D8UXR)
A701	23064465	Case (61D8UXR)
C343	24591334	PF, 0.33μF
C403	24828683	PF, 0.068μF, 200V
C601	24591102	PF, 1000pF (61D8UXR)
C602	24591102	PF, 1000pF (61D8UXR)
C603	24797479	EL, 4.7μF, ±20%, 50V (61D8UXR)
C604	24797479	EL, 4.7μF, ±20%, 50V (61D8UXR)
C613	24797010	EL, 1μF, ±20%, 50V (61D8UXR)
C614	24797010	EL, 1μF, ±20%, 50V (61D8UXR)
C618	24591562	PF, 0.0056μF (61D8UXR)
C619	24591562	PF, 0.0056μF (61D8UXR)
D360	23118535	Diode, Zener, RD4.7ESA B2
K101	23430859	T-100M (50D8UXE/UXA/UXM/UXR)
K102	23430859	T-100M (50D8UXE/UXA/UXM/UXR)
K103	23430859	T-100M (50D8UXE/UXA/UXM/UXR)
K103	23430860	T-100H (61D8UXR)
K201	23430861	T-100C(R)
K202	23430862	T-100C(G)
K203	23430863	T-100C
K501	23430817	Lenti Sheet, SCREEN50KKHL (50D8UXE/UXA/UXM/UXR)
K501	23430796	Lenti Sheet, SCREEN61KKHL (61D8UXR)
K502	23430799	Fresnel Sheet, SCREEN50KKPF (50D8UXE/UXA/UXM/UXR)
K502	23837539	Fresnel Sheet, SCREEN61KH-F (61D8UXR)
K511	23430858	SCREEN50KKA (50D8UXE/UXA/UXM/UXR)
K511	23430872	SCREEN61KKM (61D8UXR)
K601	23430528	Mirror, MIRROR61H (61D8UXR)
P801	23372026	Power Cord (50D8UXA)
P801	23372010	Power Cord (50D8UXM)
P801	23372053	Power Cord (50D8UXR/61D8UXR)
QA01	23000643	IC, 87CS38N (50D8UXR/61D8UXR)
R360	24366152	CF, 1500 ohm
R367	24366393	CF, 39k ohm
R368	24366333	CF, 33k ohm
R369	24366392	CF, 3900 ohm
R399	24366472	CF, 4700 ohm
R601	24366472	CF, 4700 ohm (61D8UXR)
R602	24366472	CF, 4700 ohm (61D8UXR)
R603	24366182	CF, 1800 ohm (61D8UXR)
R604	24366182	CF, 1800 ohm (61D8UXR)
R611	24366103	CF, 10k ohm (61D8UXR)
R612	24366103	CF, 10k ohm (61D8UXR)
* U401		DEF Board, PB9844 (50D8UXE/UXA/UXM/UXR)
* U401		DEF Board, PB9845 (61D8UXR)
* U901		Signal Board, PB9846 (50D8UXR)
* U901		Signal Board, PB9847 (61D8UXR)
~~V901~~	~~23312875~~	~~Picture Tube, P16LTX10(RFA)~~
V901R	23007231	Protector ~~Copling~~ 50D Coupling (50D8UXE/UXA/UXM/UXR)
V901R	23007235	Protector ~~Copling~~ 61D8 (61D8UXR)
~~V902~~	~~23312876~~	~~Picture Tube, P16LTX10(HKA)~~
V902G	23007232	Protector ~~Copling~~ 50D (50D8UXE/UXA/UXM/UXR)
V902G	23007236	Protector ~~Copling~~ 61D8 (61D8UXR)
~~V903~~	~~23312881~~	~~Picture Tube, P16LNUBMBAKP~~
V903B	23007233	Protector ~~Copling~~ 50D (50D8UXE/UXA/UXM/UXR)
V903B	23007237	Protector ~~Copling~~ 61D8 (61D8UXR)
Y101A	23565121	Owner's Manual, Arabic, 50D8UXM
Y101E	23565120	Owner's Manual, English, 50D8UXE/50D8UXA/50D8UXM/ 50D8UXR/61D8UXR
Y101R	23565122	Owner's Manual, Russian, 50D8UXR/61D8UXR
Y108	23122780	AC Adaptor, 2P (50D8UXM)
Z450	24082996	CR Block, TPA5007BH (50D8UXE/UXA/UXM/UXR)
ZC01	23148300	Module, CM55P17HA (61D8UXR)

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

TOSHIBA

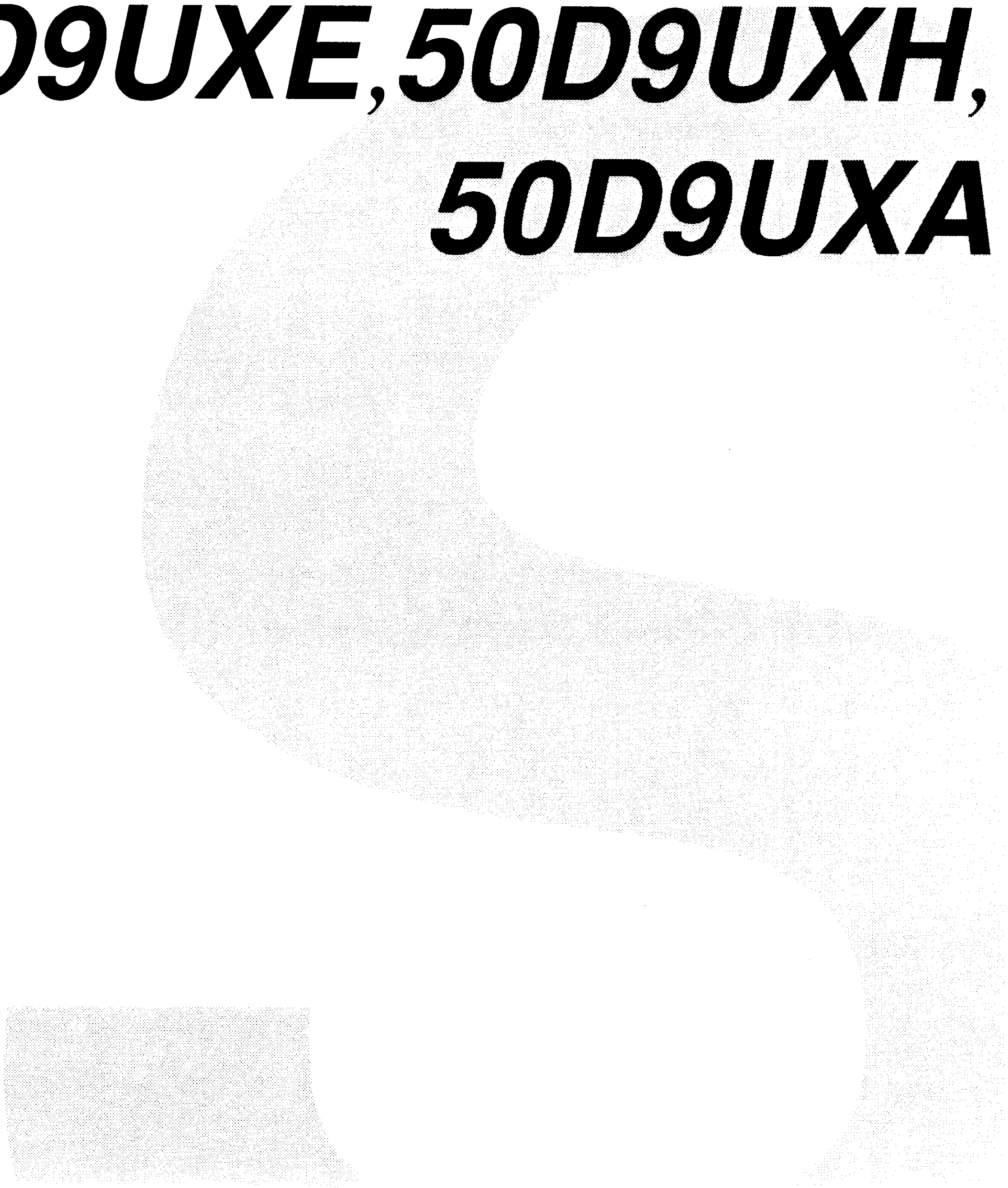
FILE NO. 040-200009

SERVICE MANUAL

COLOUR TELEVISION

S0SS Chassis

50D9UXE, 50D9UXH, 50D9UXA



PRINTED IN JAPAN Sep., 2000 Ⓣ

TABLE OF CONTENTS

CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS 3

CRT ASSEMBLY REPLACEMENT AND MOUNTING 4

PICTURE TUBE COMPONENTS ADJUSTMENT 6

SERVICE POSITION 9

SERVICE MODE 10

DESIGN MODE 13

ELECTRICAL ADJUSTMENT 14

CONVERGENCE ADJUSTMENT 17

SCREEN AND MIRROR ALIGNMENTS 22

CIRCUIT CHECKS 23

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA 24

LOCATION OF CONTROLS 25

PROGRAMMING CHANNEL MEMORY 27

CIRCUIT BLOCK DIAGRAM 29

MECHANICAL DISASSEMBLY 31

CHASSIS AND CABINET REPLACEMENT PARTS LIST 35

PC BOARDS BOTTOM VIEW 53

TERMINAL VIEW OF TRANSISTORS 65

SPECIFICATIONS 69

APPENDIX:

CIRCUIT DIAGRAM

CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a (C) V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

   Refer to table-1 for high voltage (A), (B) & AC voltage (C). (See SETTING & ADJUSTING DATA on page 24)

   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
3. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.

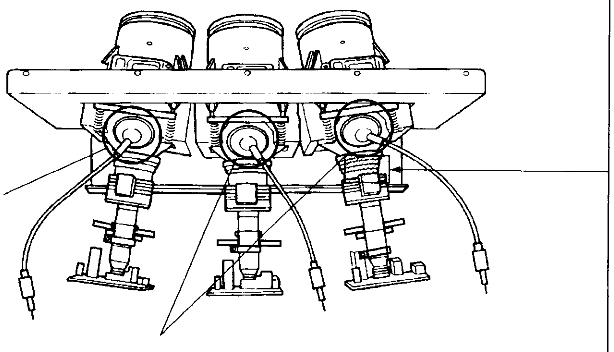
PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.

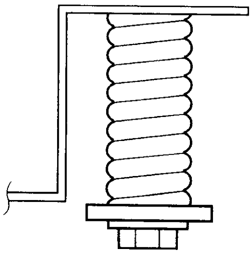
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

CRT ASSEMBLY REPLACEMENT AND MOUNTING

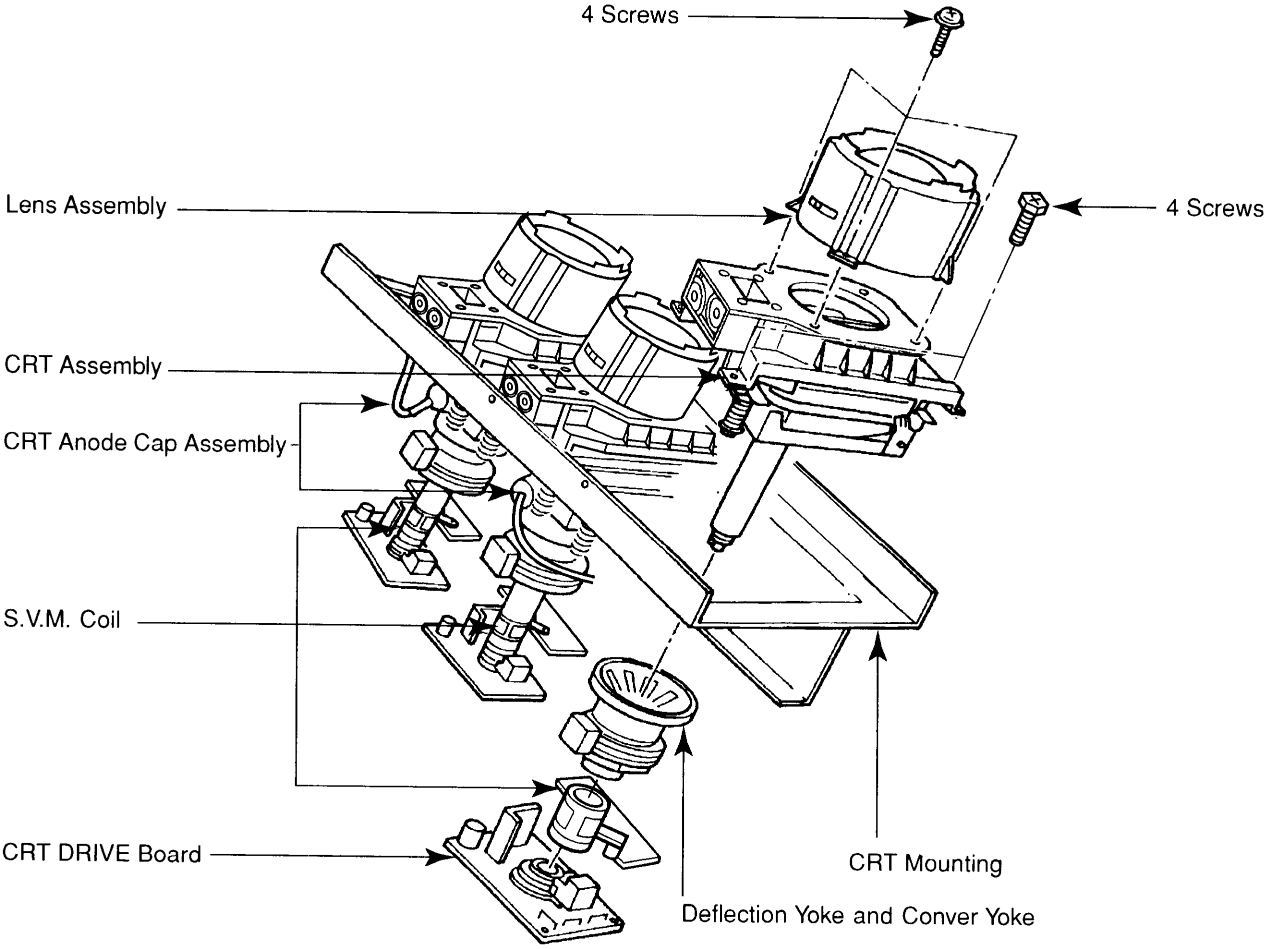
CAUTION : DO NOT LOOSEN THE HEX HEAD BOLTS WITH SPRINGS (12 PCS), BECAUSE THOSE ARE FOR SEALING OF CRT COOLANT.



Attention Serviceman



The Hex Head Bolts with Springs. (see sketch) used on CRT assembly, are "NOT" Adjustment Screws DO NOT LOOSEN-FLUID LEAKAGE WILL OCCUR.


4 Screws
Lens Assembly
4 Screws
CRT Assembly
CRT Anode Cap Assembly
S.V.M. Coil
CRT DRIVE Board
CRT Mounting
Deflection Yoke and Conver Yoke

Lens and Neck Components View

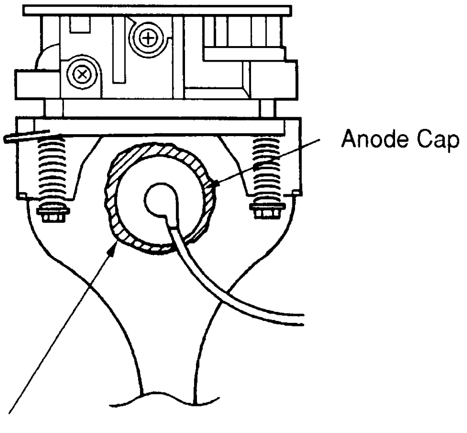
TO REMOVE CRT (Same procedure for R, G, B)

1. Remove CRT DRIVE Board, S. V. M. COIL and DEF. YOKE from CRT.
2. Remove Lens Assembly.
3. Detach CRT Anode Cap from CRT.
4. Remove CRT Assembly from CRT Mounting.

CRT REPLACEMENT (Same procedure for R, G, B)
Reverse the removal procedures except the followings.

1. Anode Cable should be replaced with new one. See "SERVICING PRECAUTIONS" shown below.
2. Install silicon (T461B) to the CRT, replace the Anode cable and put enough silicon again on around the Anode Cap as illustrated.

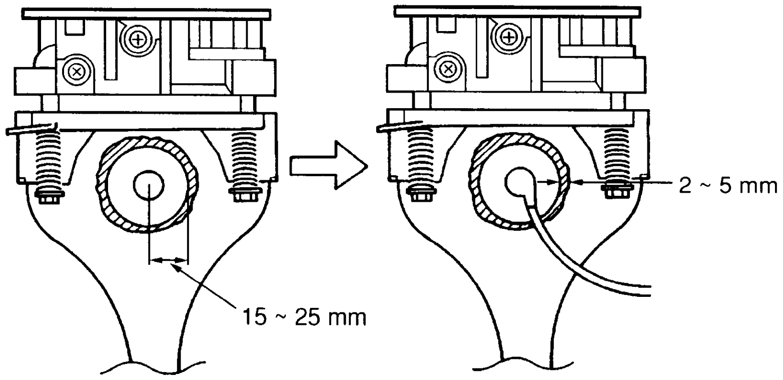
CAUTION: Align the Anode cable as illustrated on page 4.



ADJUSTING PROCEDURE IN REPLACING CRT

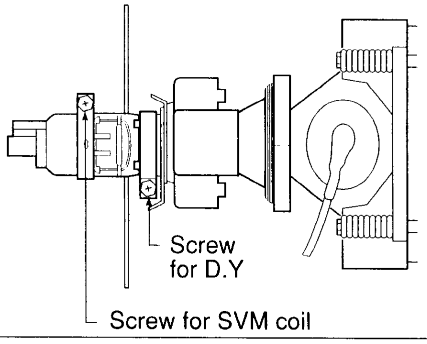
1. R.G.B. CUTOFF (SCREEN VR) ADJUSTMENT (page 6.)
2. R.G.B. FOCUS ADJUSTMENT (page 6.)
3. PICTURE TILT ADJUSTMENT (page 7.)
4. USER CONVERGENCE CENTER CHECK (Refer to owner's manual.)
5. CENTERING ADJUSTMENT (page 7.)
6. CONVERGENCE ADJUSTMENT (page 17.)
7. WHITE BALANCE ADJUSTMENT (page 14.)

Adjustments are complete.

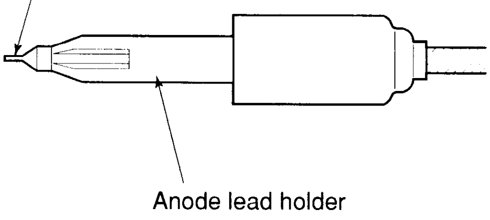


SERVICING PRECAUTIONS

- Do not use a magnetized screw driver for screws of Deflection Yoke and Velocity Modulation Coil to avoid magnetization of electron gun. Magnetization of electron gun will degrade basic function and result in unbalance of right and left shift of user static convergence, and result in no variable quantity.



- When replacing the anode cap assembly (CRT) or anode lead assembly (F.B.T.), remove the anode lead holder from old one and attach the holder again to new anode lead.
- Check the point of anode lead in a straight line, if it is winding, please revise it.



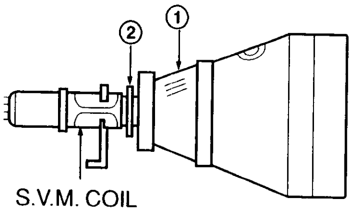
WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

PICTURE TUBE COMPONENTS ADJUSTMENT

ADJUSTING PROCEDURE IN REPLACING CRT

Cutoff
↓
Lens focus
↓
Electrical focus
↓
Yoke horizontal
→ User convergence center check
↓
Centering (PAL)
↓
Convergence adjustment (PAL/NTSC)
↓
White balance
↓
Sub bright adjustment
↓
End

DESCRIPTION OF NECK COMPONENTS



① Deflection yoke and convergence yoke.
The position on the neck is required most front (CRT funnel side) and the screw is fastened after rotating yoke adjusting picture tilt.

② Centering magnet
After adjusting picture tilt, picture position is finally fixed by this magnet.
In order to get maximum margin of user convergence control for center of screen, this magnet have to be used for center convergence adjustment.

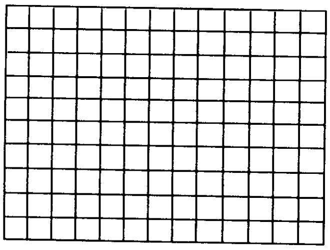
PREPARATION
Operate the receiver for at least 5 minutes.

R, G, B CUTOFF (SCREEN VR) ADJUSTMENT

1. Adjust before replace the screen assembly.
2. Set user control to reset position.
   (CONTRAST → Max
   BRIGHTNESS, COLOR, TINT → Center.)
3. Call up the adjustment mode display, then select the item RCUT.
4. Adjust the data of items **RCUT**, **GCUT**, and **BCUT** to "40H".
5. Press the -/-- ("Info") button on Remote. (Y-MUTE : ON)
6. Gradually rotate R, G and B screen volume of FOCUS PAC clockwise or counterclockwise until the raster appears slightly on the CRT through the each lens, and leave them.
   (Lookin to the lens in order to check the raster.)
7. Press the -/-- ("Info") button on Remote. (Return to Normal) Picture)

RGB FOCUS ADJUSTMENT

1. Call-up the adjustment mode (see page 10)
2. Press ⊕ button on the remote controller in order to display the internally-generated black cross-hatch (See TEST SIGNAL SELECTION on page 11.)



3. Expose only RED by covering the GREEN and BLUE lenses with caps.
4. Loosen the RED lens fixing screws (refer to Fig. a), and adjust the RED lens focus to obtain the sharpest point while observing the middle and peripheral sections of the screen.

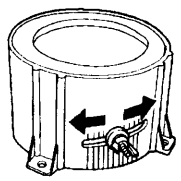


Fig. a

5. Use the focus VR of "R" of the focus pack in order to adjust the electric focus in the middle and peripheral sections of the screen to its sharpest level.
6. Check the RED focus of the whole screen and if necessary repeat steps 4 and 5.
7. Fix the RED lens by tightening its fixing screws.
8. Expose only GREEN by covering the RED and BLUE lenses with caps.
9. Display the internally-generated black cross-hatch signal.
10. Adjust the GREEN lens focus on the left border of the screen to its sharpest level, then check the focus on the right border, and if it is at its sharpest level, fix it in that position by tightening the lens screws.

(1) If the horizontal line toward the right border is red-flared, turn the lens screw slightly right in order to balance it with the left border. (After adjustment, the left border tends to be slightly green-flared, and the right border tends to be slightly red-flared.)

(2) If the horizontal line toward the right border is green-flared, turn the lens screw slightly left in order to balance it with the left border. (After adjustment, the left border tends to be slightly red-flared, and the right border tends to be slightly green-flared.)

Note: The aim of the above-described adjustment procedure for the Green lens focus is to obtain the best lens focus after 2 - 3 hours of warming up taking into account the focus drift; it applies if the warming up time before the adjustment is less than 30 minutes. (The horizontal line in the screen middle section tends to be slightly red-flared.)

In case of warming up of more than 2 hours under a condition that the large anode current is running through the projection tube so that for example the all-white pattern appears, adjust to obtain the sharpest focus while observing the whole screen like in the RED case.

11. Use the focus VR of "G" of the focus pack in order to adjust the electric focus in the middle section of the screen to its sharpest level.

Note: Normally the most clearly visible point of the scanning line is the sharpest point of the Green focus, however as the characteristics vary depending on the projection tube, the sharpest focus points of the vertical and horizontal lines may not match each other, thus when you turn the focus VR, if the picture tends to be tremendously unstable (rolls horizontally or vertically), adjust the balance of the vertical and horizontal lines to its best position.

12. Check the GREEN focus of the whole screen and if necessary repeat steps 10 and 11.
13. Fix the GREEN lens by tightening up its fixing screws.
14. Expose only BLUE by covering the RED and GREEN lenses with caps.
15. Display the internally-generated black cross-hatch.
16. Loosen the BLUE lens fixing screws (refer to Fig. a), and adjust the BLUE lens focus while observing the middle and peripheral screen sections.
17. Use the focus VR of "B" of the focus pack in order to adjust the focus in the middle section of the screen to its sharpest level.
    (The point of the Blue focus becomes sharpest when the brightness level of BLUE is lowest, the cross-hatch is clearly visible.)

Note: Keep in mind that only the BLUE electric focus is adjusted with the black cross-hatch.

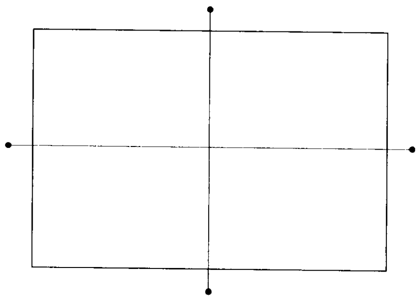
18. Check the BLUE focus of the whole screen and if necessary repeat steps 17 and 19.
19. Fix the BLUE lens by tightening its fixing screws.

TILT ADJUSTMENT

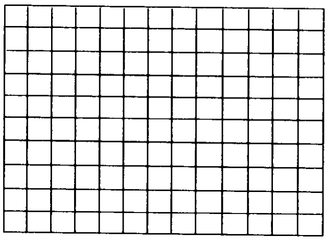
Rotate R, G, B deflection yoke so that picture becomes horizon, then fasten screw.

CENTERING ADJUSTMENT

1. Stretch a thread between two center of screen edge (top and bottom, left and right).



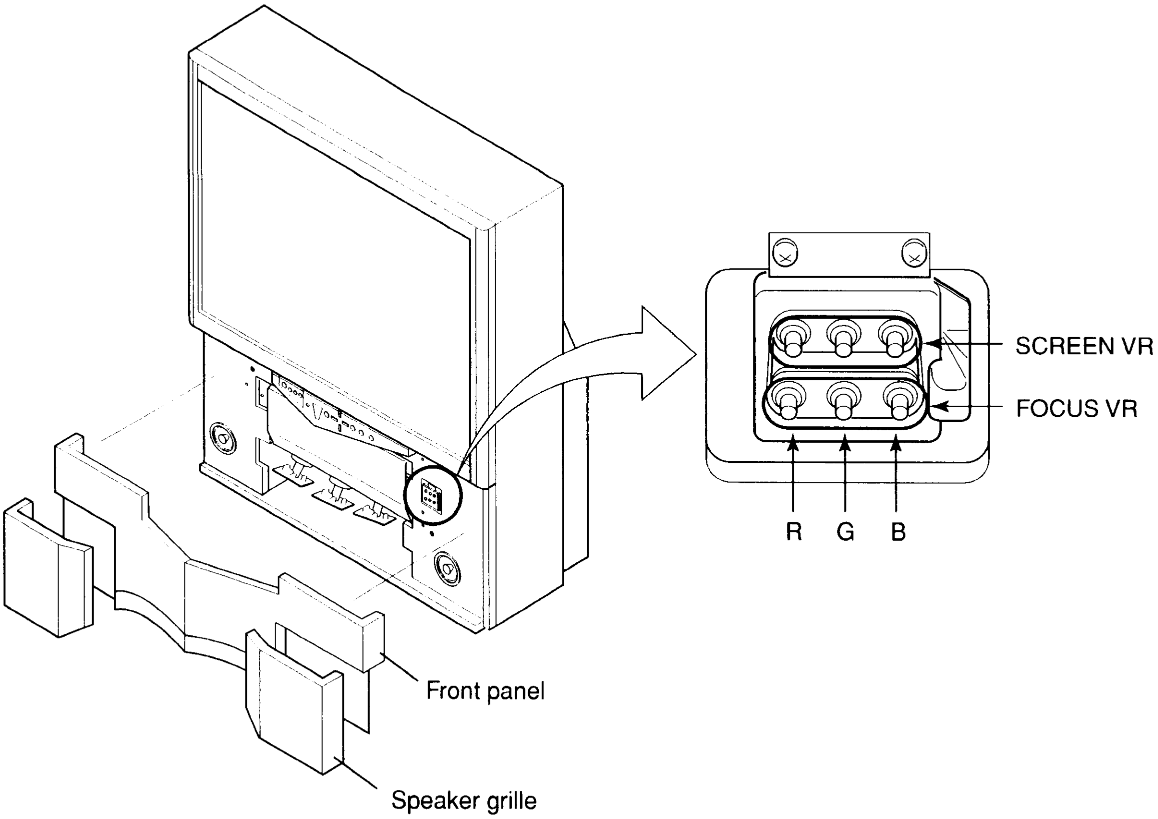
2. Select the adjustment mode. (See page 10.)
3. Press TV/VIDEO button on the Remote Control to display the black cross-hatch.



4. Adjust G centering magnet so that the cross-hatch pattern center comes to screen center.
5. Perform HEIGHT adjustment . (See page 14.)
6. Perform WIDTH adjustment. (See page 14.)
7. Check whole quality of green line.
8. Adjust R, B centering magnet so that the cross-hatch pattern center comes to screen center.

LOCATION OF SCREEN AND FOCUS VR'S

To remove the Speaker grille and Front panel.


SCREEN VR
FOCUS VR
R
G
B
Front panel
Speaker grille

REPLACEMENT OF HIGH VOLTAGE CABLE

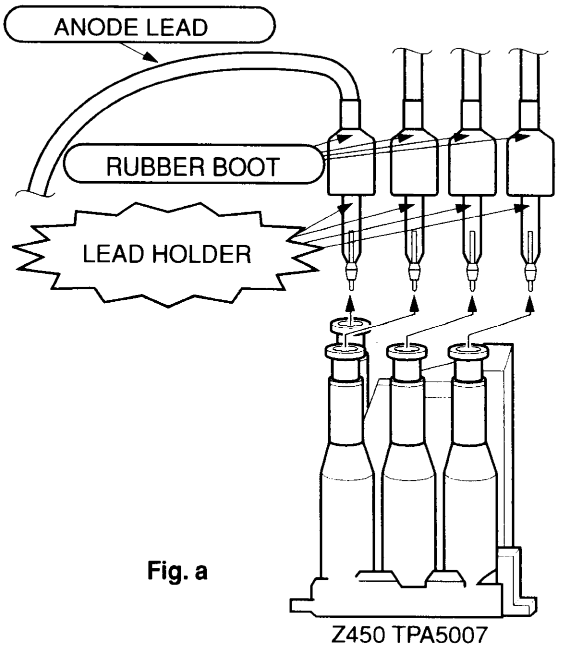

ANODE LEAD
RUBBER BOOT
LEAD HOLDER
Z450 TPA5007

Fig. a

1. When replacing Anode Lead or Anode Cap with new one, remove Lead Holder from old lead as shown in figure below, and put it on new lead. Do not throw away Lead Holder.

NOTE : THE LEAD HOLDER IS ATTACHED TO TPA5007 (Z450), BUT IS NOT ATTACHED TO ANODE LEAD AND ANODE CAP. RUBBER BOOT IS ATTACHED TO ANODE LEAD AND ANODE CAP.

2. Detaching Lead Holder

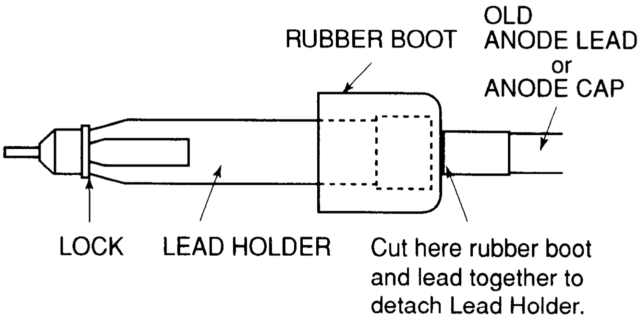

RUBBER BOOT
OLD ANODE LEAD or ANODE CAP
LOCK
LEAD HOLDER
Cut here rubber boot and lead together to detach Lead Holder.

Fig. b

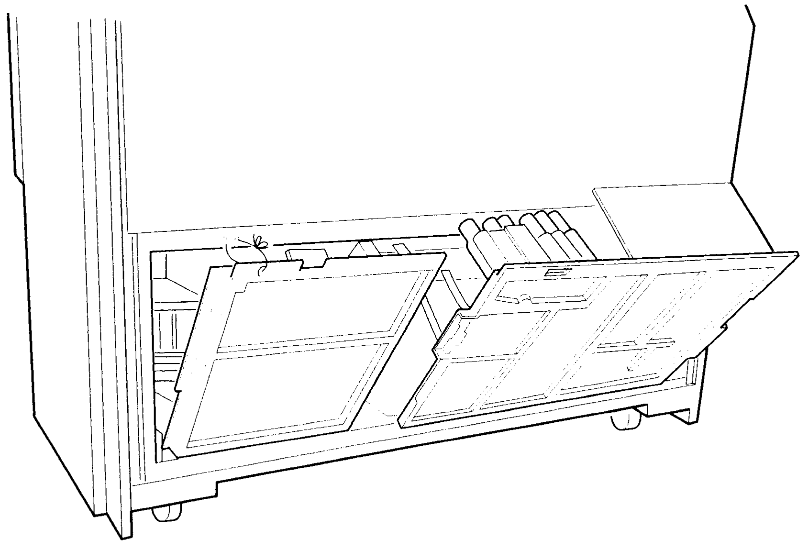
WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

SERVICE POSITION

In order to assure the performance, processed wires shall be replaced after the repair work.
Work procedures are as follows:

1. Remove the back board.
2. Remove lead wires.
3. Draw out the chassis.
4. Insert the front edge of the chassis into the groove where the back board has been inserted and make the chassis stand.
5. Put one screw on cabinet by depth of their length for fixing back board, and then, temporarily use them to hold the CONV/POWER chassis with wires tied to screws or insert the PVC band into the opening of main board frame to fix the main board chassis.

After repair work finished, replace it in the opposite procedure.



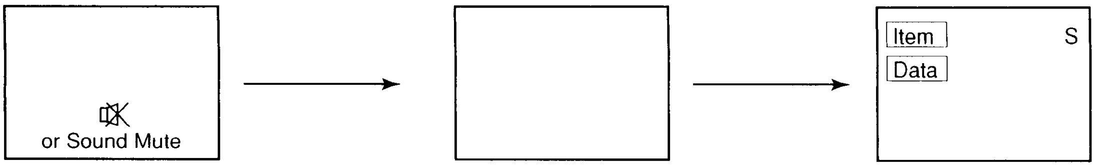
SERVICE MODE

1. ENTERING TO SERVICE MODE

1) Press 🔇 button once on Remote Control.

2) Press 🔇 button again to keep pressing.

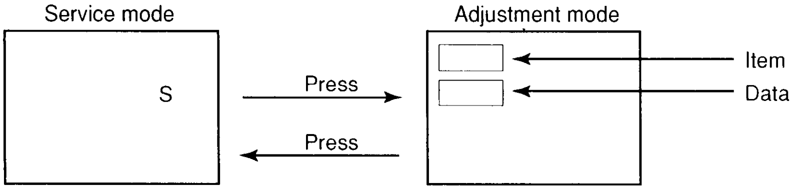
3) While pressing the 🔇 button, press MENU button on TV set



(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

Screen adjustment mode ON/OFF:	-/-- ("Info") button (on Remote)	
Test signal selection :	⊸ button (on Remote)	
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)	
Change of the data value :	Volume ◢ +/– (on TV or Remote)	
Adjustment menu mode ON/OFF :	MENU button (on TV)	
Initialization of the memory (QA02) :	CALL + Channel button on TV (▲)	
Reset the count of operating protect circuit to "00":	CALL + Channel button on TV (▼)	
"RCUT" selection :	1 button	
"GCUT" selection :	2 button	
"BCUT" selection :	3 button	
"SCNT" selection :	4 button	
"COLC" selection :	5 button- - - - -	Color thickness correction
"TNTC" selection :	6 button	note: Displayed differently as shown below, depending on the setting of the receiving color system. COLP (PAL) COLC (NTSC) COLS (SECAM)
Convergence adj :	YELLOW button	
Self diagnostic display ON/OFF :	9 button	

CAUTION : Never try to perform initialization unless you have changed the memory IC.

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 24)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ◿ +/– button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02

After replacing QA02, the following initialization is required.

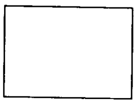
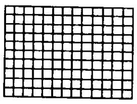
1. Enter the service mode, then select any register item.
2. Press and hold the CALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been complated.
3. Check the picture carefully. If necessary, adjust any adjustment item above.
   Perform "Auto search Memory" on the owner's manual.

CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

7. TEST SIGNAL SELECTION

1) Every pressing of -⊙ button on the Remote Control changes the built-in test patterns on screen as described below in SERVICE MODE.

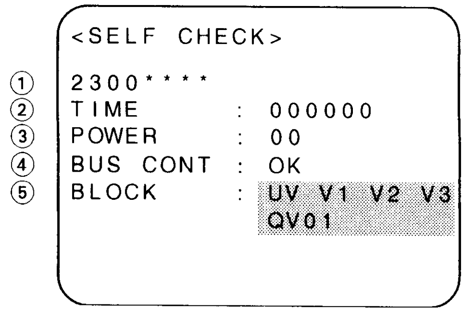
Signal off ——→ PAL signals (5 patterns)
↑—— NTSC signals (5 patterns) ←—┘

Signals	Picture
• Red raster • Green raster • Blue raster • All White	
• Black cross-hatch	

* The signals marked with ▨ are not usable to display in the Test signal for some model.

8. SELF DIAGNOSTIC FUNCTION

1) Press "9" button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC's are executed properly.
2) During diagnosis, the following displays are shown.



```
  <SELF CHECK>

① 2300****
② TIME      : 000000
③ POWER     : 00
④ BUS CONT  : OK
⑤ BLOCK     : UV V1 V2 V3
              QV01
```

① Part number of microcomputer (QA01)

② Total hour of turn the Power on. (unit: hour)

③ Operation number of protecting circuit ----"00" is normal.
When indication is other than "00", overcurrent apts to flow, and circuit parts may possibly be damaged.

④ BUS CONT ----"OK" is normal.
When indication shows "Q ○○○ (Green: OK, Red: NG)", the device with the number may possibly be damaged.

⑤ BLOCK

UV : TV reception mode
V1 : VIDEO 1 input mode (→○1)
V2 : VIDEO 2 input mode (→○2)
V3 : VIDEO 3 input mode (→○3)

Indicated color of mode now selected	: Green and Red
Indicated color of other modes	: White

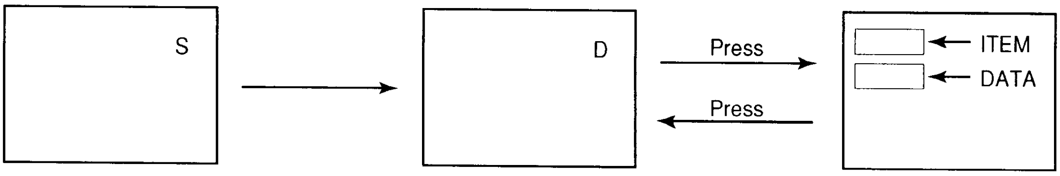
Green : Normal
Red : The microcomputer operates to provide judgement of no video signal. The red color is still indicated though the signal is input, failure may exist in input signal line including QV01.
QV01 : In case of indication green ---Normal
In case of indication red with input signal---- Failure may exist in output line including QV01.

* The items marked with ░ are not usable to display in the SELF DIAGNOSTIC FUCTION for some model.

DESIGN MODE

1. ENTERING TO DESIGN MODE

1) Select the Service mode.
2) While pressing CALL button on Remote and press MENU button on TV.
3) Press MENU button on TV.



(Design mode) (Adjustment mode)

When QA02 is initialized, items "OPT0" and "OPT1" of DESIGN MODE are set to the data of the representative model of this chassis family.

Therefore, because ON-SCREEN specification remains in the state of the representative of model. This model is required to reset the data of items "OPT0" and "OPT1".

2. SELECTING THE ADJUSTING ITEMS

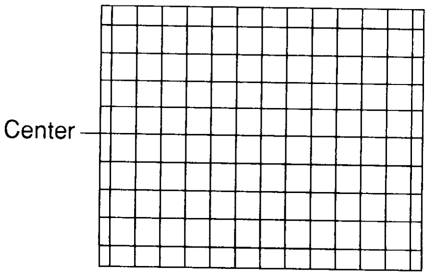
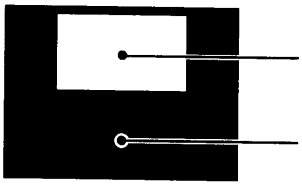
Every pressing of CHANNEL ▼ button in the design mode changes the adjustment items in the order of table-3. (▲ button for reverse order)

Refer to table-3 for data of design mode.
(See SETTING & ADJUSTING DATA on page 24)

3. ADJUSTING THE DATA

Pressing of VOLUME ▲ or ▼ button will change the value of data.

ELECTRICAL ADJUSTMENT

ITEM	ADJUSTMENT PROCEDURE
WIDTH (WID)	1. Call up the adjustment mode display, then select the item **WID**. 2. Press the VOLUME ▼ button to get the picture so the left or right edges of raster begins to lack. 3. Press the VOLUME ▲ button to advance the data by 15 steps. Note : Check the horizontal picture position is correct.
VERTICAL LINEARITY (VLIN)	1. Call up the adjustment mode display, then select the item **VLIN**. 2. Press the TV/VIDEO button on Remote until the cross-hatch pattern appears on the screen. 3. Press the VOLUME ▲ or ▼ button to obtain the picture of the best linearity 
HEIGHT (HIT)	1. Call up the adjustment mode display, then select the item **HIT**. 2. Press the VOLUME ▼ button to get the picture so the top or bottom of raster begins to lack. 3. Press the VOLUME ▲ button to advance the data by 9 steps. Note : Check the vertical picture position is correct.
WHITE BALANCE (RCUT) (GCUT) (BCUT) (RDRV) (BDRV)	Black and White pattern  High light area Adjust "RDRV" or "BDRV" to be white. Low light area Fine adjust "RCUT", "GCUT" or "BCUT" to be black. 1. Set user control to reset position. (CONTRAST → Max BRIGHTNESS, COLOR, TINT → Center.) 2. Call up the adjustment mode display, then select the item RCUT. 3. Adjust the data of items **RCUT**, **GCUT**, and **BCUT** to "40H". 4. Press the -/-- button on Remote. (Y-MUTE : ON) 5. Gradually rotate R, G and B screen volume of FOCUS PAC clockwise or counter-clockwise until the raster appears slightly on the CRT through the each lens, and leave them. (Lookin to the lens in order to check the raster.) 6. Press the -/-- button on Remote. (Return to Normal Picture) 7. Press the -⊕ button on Remote, and select the Black and White pattern. 8. Adjust the data of items **RCUT**, **GCUT** and **BCUT** for proper white-balanced picture in low light area. 9. Adjust the data of items **RDRV** and **BDRV** for proper white-balanced picture in high light area. 10. Check the white balance in both low and high light areas. If necessary, perform again steps from 8 to 9.

S0SS: Series (Reference factory adjustment)

Item	Name	Setting (User control)	Input signal	Measurement point	Adjustment procedure	Adjustment standard
[SCNT]	Sub-contrast	Reset 1 mode	Sub-bright signal (PAL-I signal)	Q501 (TP46B)	Adjust the amplitude from the pedestal level to the white peak.	2.4 ± 0.1 V p-p
[BRTC]	Sub-bright center	Reset 1 mode	Sub-bright signal	Screen adjustment	1) Adjust the number of collapsed black lines of sub-bright signal. 2) This adjustment shall be done after W/B [SCNT] adjustment.	4 ± 1.5 lines
[COLP]	Sub-color center PAL	Reset 1 mode	Sub-bright signal (PAL)	Q501 (TP46B)	1) Adjustment the colour bar amplitude. 2) Adjust the P-P value of the upper half.	1.25 ± 0.1 V p-p
[BELL]	BELL filter		SECAM colour bar	QQ01 (TMP01)	1) Adjust [BELL] so that the wavetorm on the synchroscope becomes flat. 2) Perform this adjustment at the white part.	100 ± 10 %
[SRY]	SECAM R-Y black level		SECAM colour bar	Q501 (TP02)	1) Adjust [SRY] so that the level of B/W signal becomes the same as the H.BLK level. 2) This adjustment shall be done after [BELL] adjustments.	0 ± 10 mV
[SBY]	SECAM R-Y black level		SECAM colour bar	Q501 (TP01)	1) Adjust [SBY] so that the level of B/W signal becomes the same as the H.BLK level. 2) The adjustment shall be done after [BELL] adjustments.	0 ± 10 mV
[COLS]	Sub-colour center SECAM	Reset 1 mode	SECAM colour bar	Q501 (TP46B)	1) Adjust the amplitude of colour bar. (Apply picture mute for this adjustment.) 2) Adjust the P-P value of the upper half.	1.8 ± 0.2 Vop
Screen adjustment	Screen	Factory screen adjsutment mode		CRT tube surface	1) Make the surrounding as dark as possible. 2) Set to the factory screen adjustment mode (Y mute, DRV. CUT= 40H) 3) Observing the CRT tube surface directly, adjust the screen VR to the point where the tube starts to be bright. 4) Perform this adjustment for each R, G and B tube.	Point where the tube starts to glow.
Focus adjustment	Focus	Reset 1 mode	RETMA (PAL-1)	Screen Adjustment	1) Repeat the electric focus and optical focus adjustments for the best position. 2) As to CRTs other than the one for the adjustment, shield them with a jig. 3) Perform this adjustment for each R, G and B tube.	
[RDRV] [BDRV]	White balance at bright part			Screen Adjustment	Adjust the colour temperature at the bright part (103cd/m^2).	11500K-0.002uv
[RCUT] [BCUT]	White balance at dark part			Screen Adjustment	Adjust the colour temperature at the dark part (17cd/m^2).	10500K-0.002uv

Item	Name	Setting (User control)	Input signal	Measurement point	Adjustment procedure	Adjustment standard
V-Balance voltage adj.	V-Balance voltage	DYANAMIC	Phillips pattern	TP-V–TP-G	Hook it up with a digital voltmeter, and adjust the DC voltage according to VPOS data.	10 ± 10 mV
Vertical position adjustment		DYNAMIC	Phillips pattern (PAL-I)	Screen adjustment	1) Adjust the centering magnet so that the vertical position comes to the center of the dummy screen (cross pattern). 2) Do not change [VPOS] data.	
Horizontal position adjustment		DYNAMIC	Phillips pattern (PAL-I)	Screen adjustment	1) Adjust the centering magnet so that the horizontal position comes to the center of the dummy screen (cross pattern). 2) Do not change [HPOS] data.	
[HIT] [VLIN]	Vertical amplitude adjustment	DYNAMIC	Phillips pattern (PAL-I)	Screen adjustment	Adjust the vertical amplitude so that top and bottom flags disappear. (Align the vertical center of the pattern with the center mark of the mask.)	
[WID]	Horizontal amplitude adjustme	Reset 1 mode	Phillips pattern (PAL-I)	Screen adjustment	Adjust the horizontal amplitude so that the left and right flags disappear.	

Unit adjustment : DIGITAL-CONVER

Item	Name	Setting (User control)	Input signal	Measurement point	Adjustment procedure	Adjustment standard
PLL frequency adjustment				Q709 emitter	1) Apply the following voltages to the respective terminals of P701. +5V to the terminals #15 and #16 +9V to the terminals #13 -9V to the terminals #14 2) By L719, adjust the frequency of the emitter Q709.	32 ± 0.1 kV

CONVERGENCE ADJUSTMENT

1. PICTURE ADJUSTMENT

The adjustment are done on two screens; 50 Hz mode (PAL) and 60 Hz mode (NTSC). To synchronize correction wave to each frequency, receive the suitable signal.

1-1. Change of Memory (E²PROM)

Memory of QH173 E²PROM is nonvolatile, and adjusted data is stored. Since data in RAM of QH001 is eliminated with power OFF, the RAM is set by soft command of microcomputer QA01 at every power ON. The adjusted data which is obtained from screen-watching is once stored in RAM inside QA01. The whole data in RAM which is corrected on each adjusting point and is changed, is saved into E²PROM (QH173) as a fixed data. The data capacity per one screen requires 8k for 50 Hz mode (PAL), and 4k for 60 Hz mode (NTSC).

1-2. Service Mode

1-2-1. Outline

Service mode is controlled by software of microcomputer QA01, and is one of function of set.

This mode is designed so that ordinary user cannot use this, and special operation is required to use this.

Data change is done by direct shift (cursor display) of adjusting points; 50 Hz mode (PAL) 8 × 8/1 color and 60 Hz mode (NTSC) 8 × 8/1 color.

1-2-2. To Enter and to Exit

Press MUTE key on remote hand unit twice and keep pressing the key, press MENU key of set console.

Then service data will be displayed on top left of screen. Under the condition, press " →|♪|← " key on remote hand unit, and the screen shows crosshatch picture (Later, the first picture). Press again " →|♪|← " key, and the screen changes to crosshatch + data display (Later, second picture). This time changed data are automatically saved

Further, press " →|♪|← " key on remote, the screen returns to original picture.

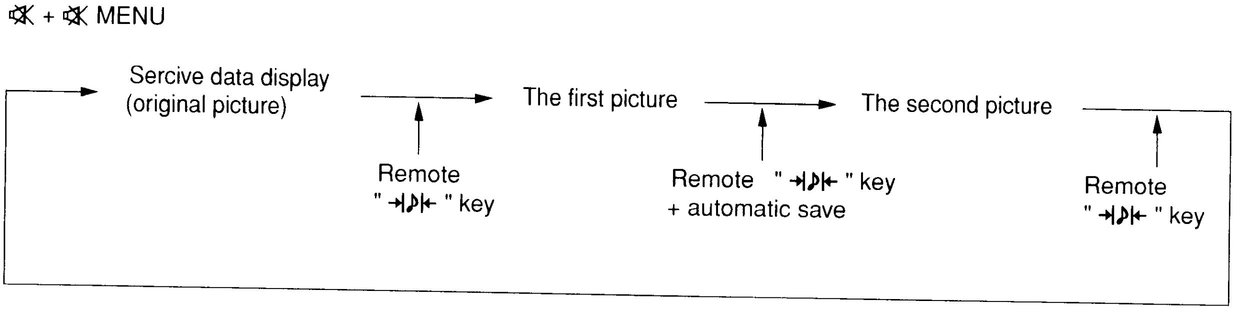
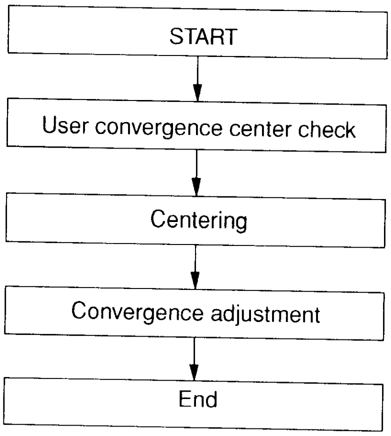
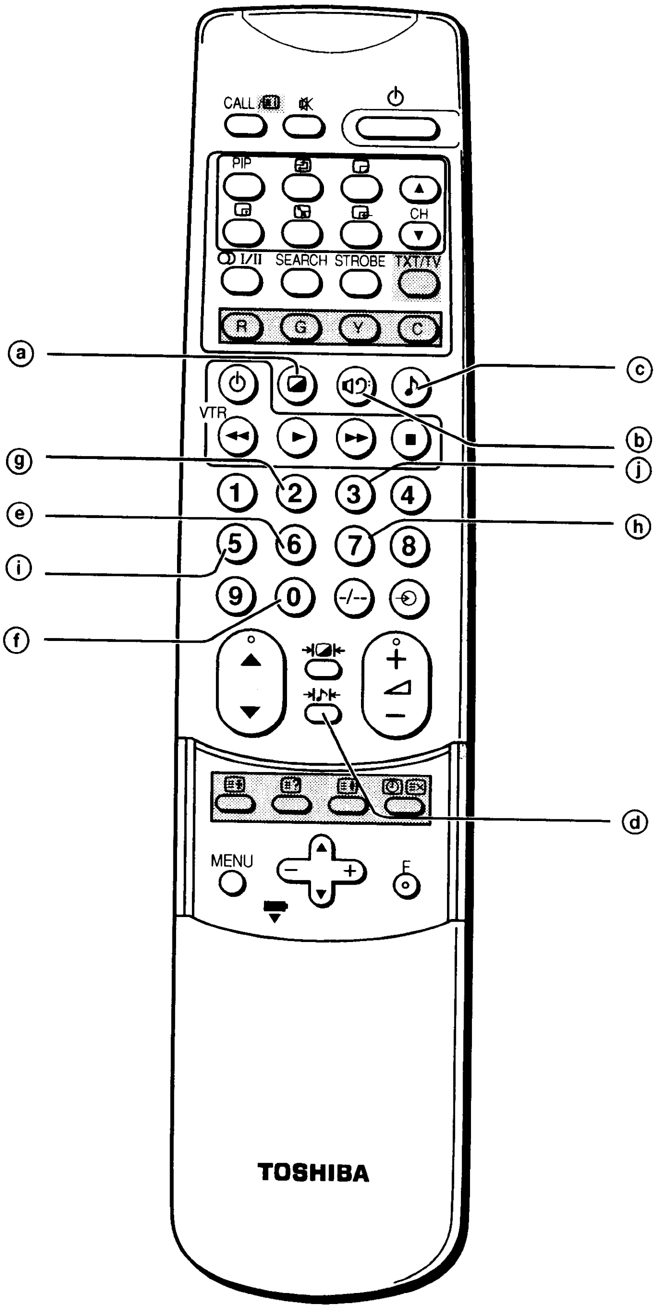

🔇 + 🔇 MENU
Sercive data display (original picture)
The first picture
The second picture
Remote " →|♪|← " key
Remote " →|♪|← " key + automatic save
Remote " →|♪|← " key

Fig. 10 -1

Adjusting Procedure In Replacing Convergence Unit/Main Def


START
User convergence center check
Centering
Convergence adjustment
End

2. KEY FUNCTION OF REMOTE CONTROL UNIT

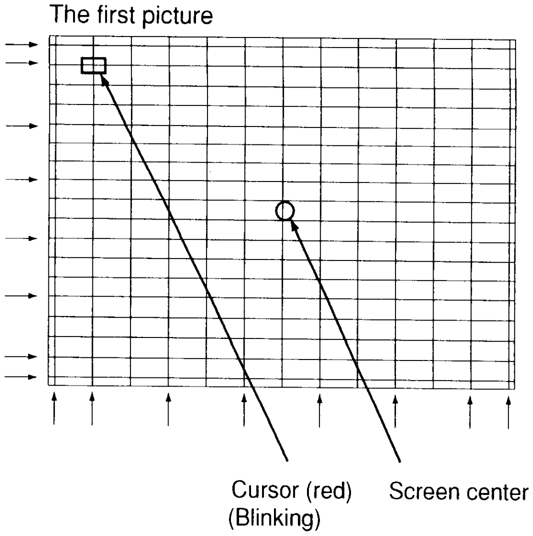

ⓐ
ⓖ
ⓔ
ⓘ
ⓕ
ⓒ
ⓑ
ⓙ
ⓗ
ⓓ
CALL
PIP
CH
I/II
SEARCH
STROBE
TXT/TV
R
G
Y
C
VTR
1
2
3
4
5
6
7
8
9
0
-/--
MENU
F
TOSHIBA

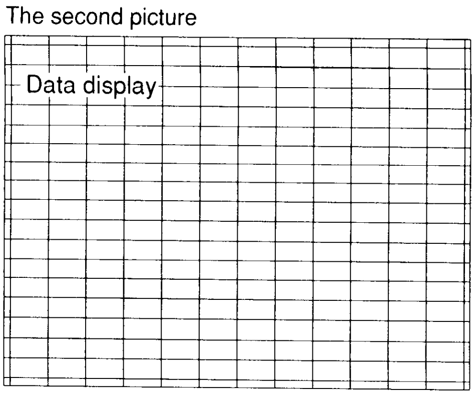
ⓐ	◪ key	Red test pattern ON/OFF
ⓑ	◁) key	Green test pattern ON/OFF
ⓒ	♪ key	Blue test pattern ON/OFF
ⓓ	→|♪|← key	Mode picture change-over
ⓔ	6 key	Cursor shift / data change mode change-over
ⓕ	0 key	Cursor down / adjusting point dow
ⓖ	2 key	Cursor up / adjusting point up
ⓗ	7 key	Cursor right / adjusting point right
ⓘ	5 key	Cursor left / adjusting point left
ⓙ	3 key	Cursor color change

Fig. 2

3. Picture

a) 50 Hz mode (PAL) .... Correcting point: Horizontal 8 x Vertical 8 (Arrow marks denote correcting point)





The first picture

Crosshatch pattern. Pattern colors are three color display. Cursor is blinking in red. When changed, condition is last memory state.

Cursor is .... Data change mode in lighting,
Cursor shifting mode in blinking.

Display color shows the color that data change is possible.

The second picture

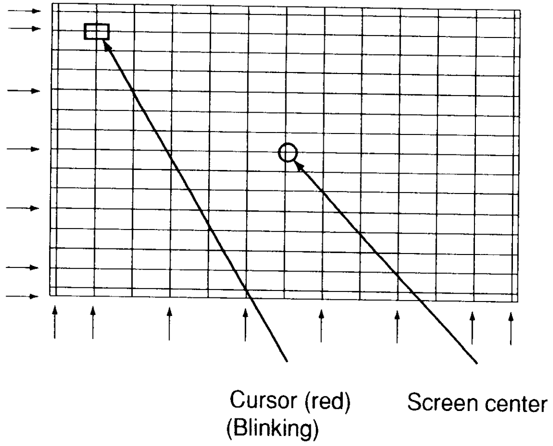
When entering from the first picture to the second picture, correcting wave of convergence is muted for one second.
During this period, the changed data is transferred from RAM Q701 to E2PROM QH173, and saved.

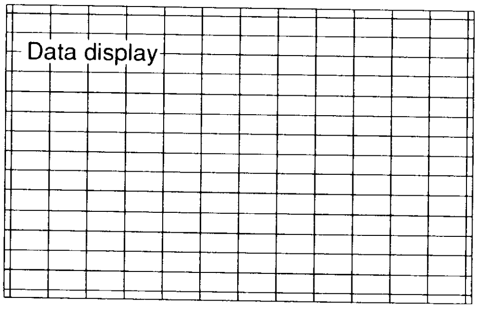
The second picture is indicated with data on top left of the first picture, therefore, convergence cannot be adjusted by this picture.

Caution:

- Receive suitable signal for adjustment. Centering of green picture can be done in 50 Hz mode (PAL).
- Centering of 60 Hz mode (NTSC) can be adjusted by convergence adjustment. Besides, decide the center by cross pattern of static convergence in menu, and adjust convergence from center to circumference.

b) 60 Hz mode (NTSC) .... Correcting point: Horizontal 8 x Vertical 7 (Arrow marks denote correcting point)


The first picture


The second picture

The first picture

Crosshatch pattern. Pattern colors are three color display. Cursor is blinking in red. When changed, condition is last memory state.

Cursor is .... Data change mode in lighting,
Cursor shifting mode in blinking.

Display color shows the color that data change is possible.

The second picture

When entering from the first picture to the second picture, correcting wave of convergence is muted for one second.

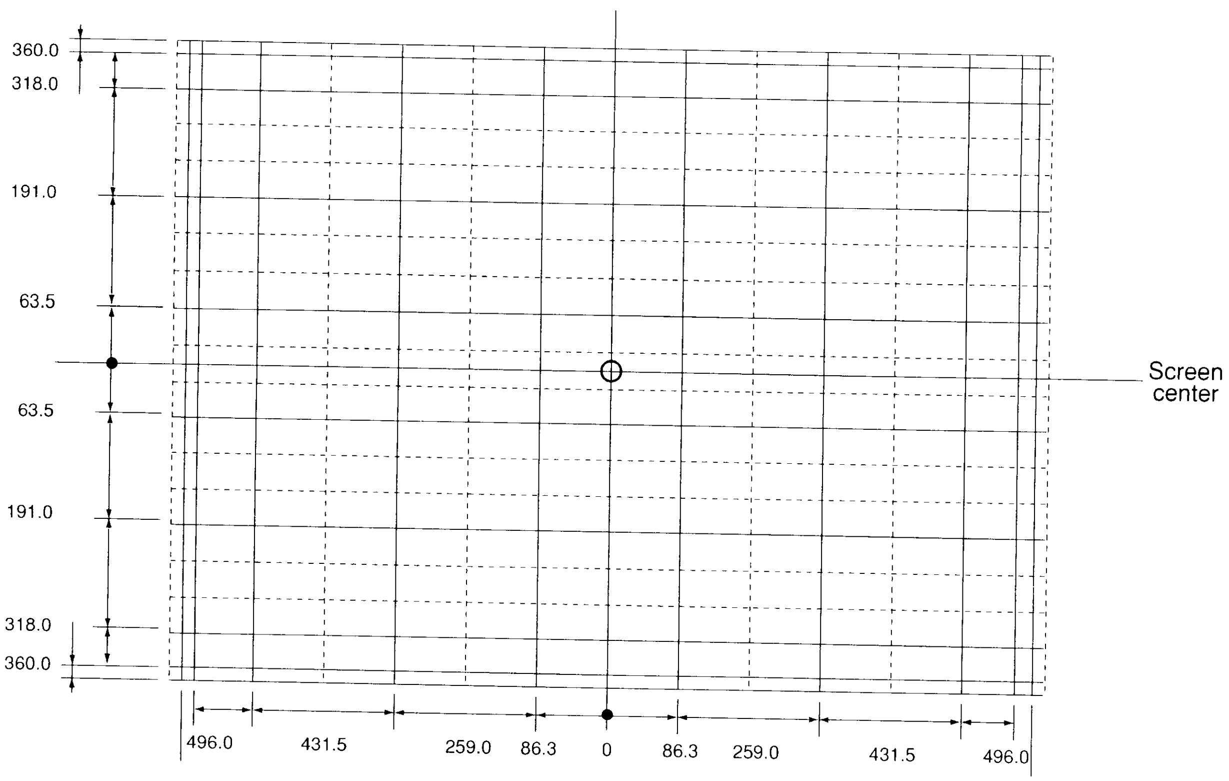
During this period, the changed data is transferred from RAM Q701 to E²PROM QH173, and saved.
The second picture is indicated with data on top left of the first picture, therefore, convergence cannot be adjusted by this picture.

Caution:

- Receive suitable signal for adjustment. Decide the center by cross pattern of static convergence in menu, and adjust convergence from center to circumference.

4. ADJUSTING PICTURE DIMENSION (GREEN PICTURE)

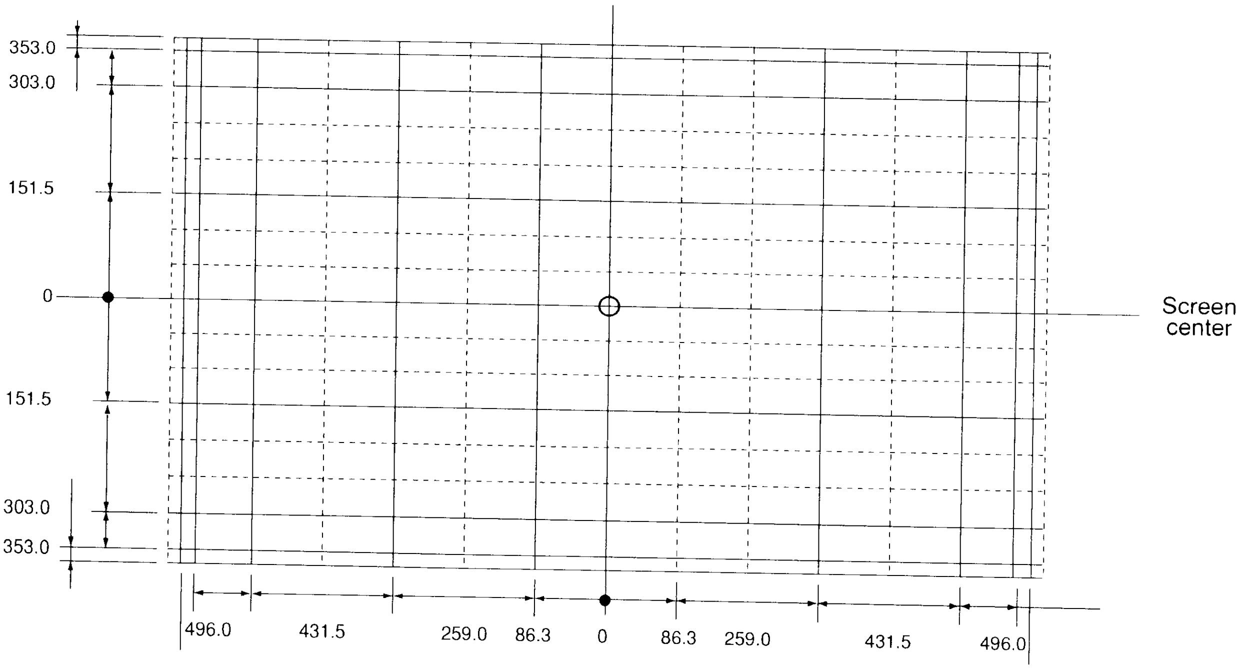
1.50 Hz mode (PAL)


Screen center
360.0
318.0
191.0
63.5
63.5
191.0
318.0
360.0
Screen center
496.0
431.5
259.0
86.3
0
86.3
259.0
431.5
496.0

○ mark: center

50 inches 4:3 Screen size: Horizontal 1014mm, Vertical 760mm

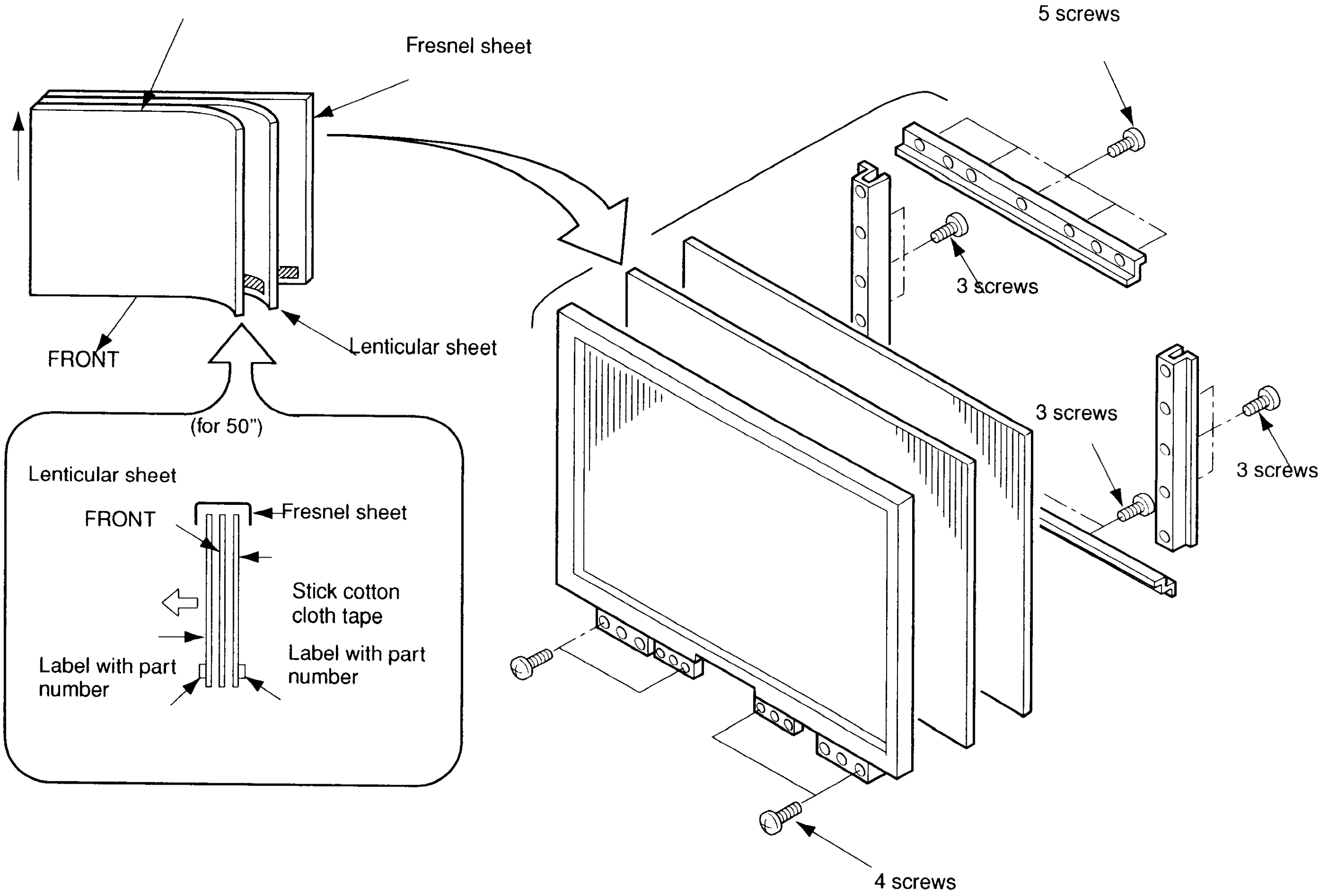
2. 60Hz mode (NTSC)


353.0
303.0
151.5
0
151.5
303.0
353.0
Screen center
496.0
431.5
259.0
86.3
0
86.3
259.0
431.5
496.0

50 inches 4:3 Screen size: Horizontal 1014mm, Vertical 760mm

SCREEN AND MIRROR ALIGNMENTS

ASSEMBLING AND MOUNTING OF FRONT SCREEN


Fresnel sheet
FRONT
Lenticular sheet
(for 50")
Lenticular sheet
FRONT
Fresnel sheet
Stick cotton cloth tape
Label with part number
Label with part number
5 screws
3 screws
3 screws
3 screws
4 screws

CLEANING OF LENS AND MIRROR

CAUTION : Do not hold the optical system parts (lens and mirror) with bare hand to avoid finger-prints on the surface of those parts.

HOW TO CLEAN LENS AND MIRROR

1. Be sure to remove sand dust with an air brush, etc.
2. When it is stained slightly, breathe upon it and wipe away with the specified cleaning cloth.
   For other stains than the above, wipe the stains away with the specified cloth into which a cleaning liquid has been soaked.

Cleaning liquid .... **LENS LUSTER** (Manufactured by Edmund Scientific Co.), etc.

HOW TO CLEAN SCREEN

When cleaning the screen, use a soft cloth so as not to damage the screen.

1. Wipe the stain away with a diluted neutral detergent soaked cloth.
2. Wipe the detergent away with a water soaked cloth.
3. Wipe the screen with a dry cloth to remove moisture on the screen.

Note : Absolutely do not use alcohol, benzine, thinner, etc. for cleaning in order not to wipe away the black print on the surface.

CIRCUIT CHECKS

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

1. Connect an accurate high voltage meter to the anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST to minimum (zero beam current).
3. High voltage must be measured below (B) kV.
   Refer to table-1 for high voltage (B).
   (See SETTING & ADJUSTING DATA on page 24)
4. Vary the BRIGHTNESS to both extremes to be sure the high voltage does not exceed the limit under any conditions.

CAUTION:
When the following parts fail, check the High Voltage after replacing.

Location No.	Name	Name
T461	Flyback Trans.	TFB3087AD
C440	Capacitor	2000pF, ±3%
C443	Capacitor	4700pF, ±3%
C444	Capacitor	8200pF, ±3%
C467	Capacitor	12000pF, ±3%
C468	Capacitor	12000pF, ±3%

ANODE VOLTAGE MEASURING METHOD

CAUTION: Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assembly, DEFLECTION assembly, and POWER SUPPLY assembly).

1. Disconnect the FBT anode cable as outlined below. Measure high voltage at the point where the cable enters the FBT.
2. Holding the rubber cover firmly, turn it counterclockwise and check that the lock has been disengaged. (See Fig. b on page 8.)
3. Determine the extent of the rubber cover before disconnecting the cable.
4. Pull straight up the anode cable to disconnect.
5. When reconnecting the cable, proceed in the reverse order.
   After reconnecting, tug on the cable to check that it is secure.

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

【SAFETY INSTRUCTIONS】

		50"
HIGH VOLTAGE AT ZERO BEAM:	(A)	32.8 kV
MAX HIGH VOLTAGE:	(B)	34.4 kV
AC VOLTAGE	(C)	110~240 V

Table-1

【SERVICE MODE】

ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE:

Item	Adjustment	Reference data
RCUT	R CUTOFF (B/W)	40H
GCUT	G CUTOFF (B/W)	40H
BCUT	B CUTOFF (B/W)	40H
RDRV	R DRIVE	40H
BDRV	B DRIVE	40H
CNTX	SUB CONTRAST MAX	7FH
BRTC	SUB BRIGHT CEN	80H
COLC	SUB COLOR CEN NTSC	50H
TNTC	SUB TINT CEN	20H
COLP	SUB COLOR CEN PAL	01H
COLS	SUB COLOR CEN SECAM	45H
COLD	SUB COLOR CEN DVD	50H
SCNT	SUB CONTRAST	0EH
SRY	SECAM R-Y	07H
SBY	SECAM B-Y	04H
HPOS	50Hz H-POSITION	3AH
VPOS	V-POSITION	60H
HIT	HEIGHT	4CH
VLIN	V-LINEARITY	11H
VSC	V-S CORRECTION	04H
VPS	V-SHIFT	1CH
VCP	V-COMPENSATION	0AH
WID	PICTURE WIDTH	22H
PARA	E-W PARABOLA	1CH
CNR	E-W CORNER	03H
TRAP	TRAPEZIUM	20H
HCP	H-COMPENSATION	00H
VFC	V-F CORRECTION	0FH

Table-2

【DESIGN MODE】

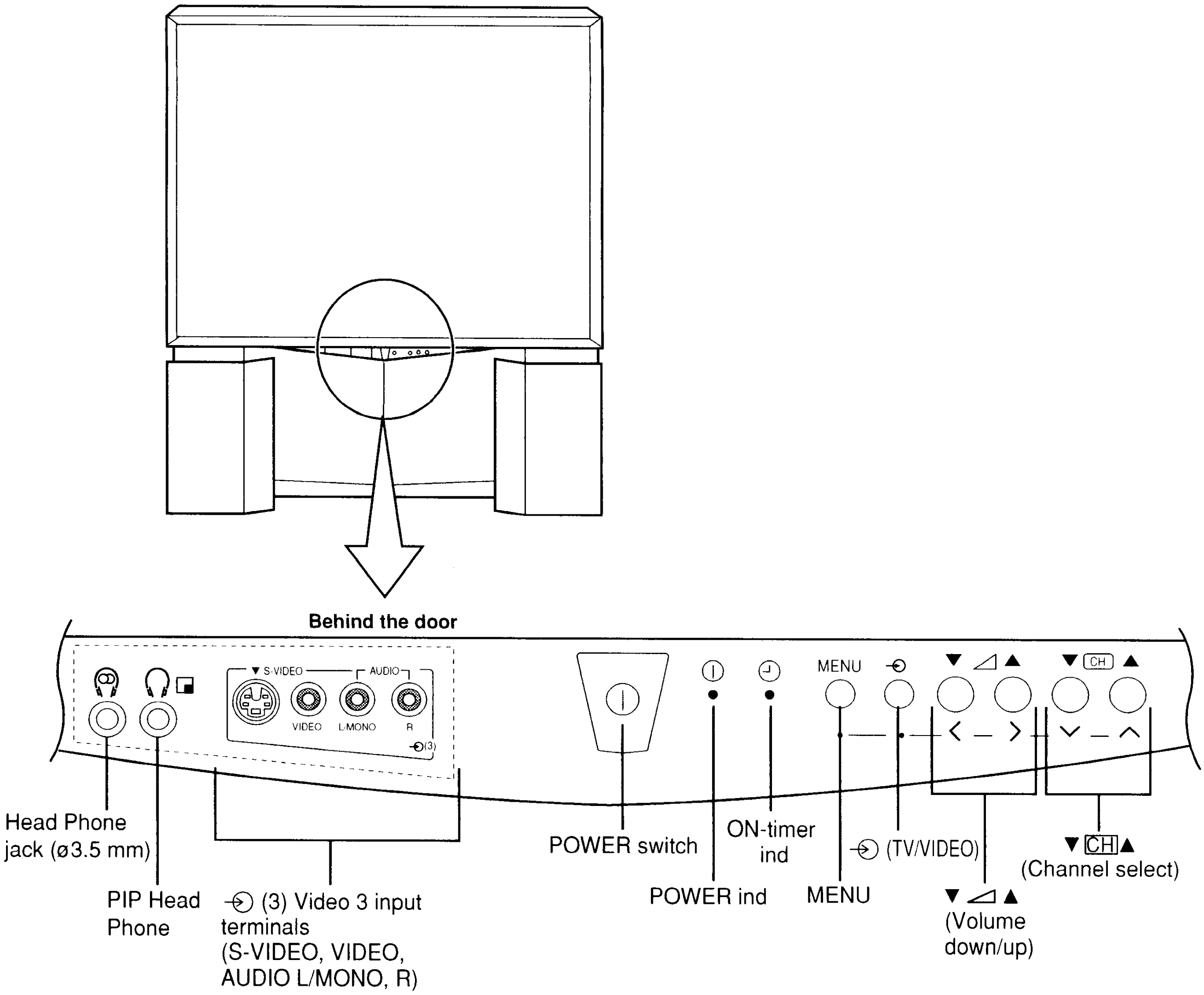
ADJUSTING ITEMS AND DATAS IN THE DESIGN MODE:

Item	Name of adjustment	Preset Data	50"	Remarks
RCUT				
OPT1	OPTION 1	48H	48H	
OPT0	OPTION 0	81H	81H	
OSD				
.				
.				
.				
.				
RCUT				

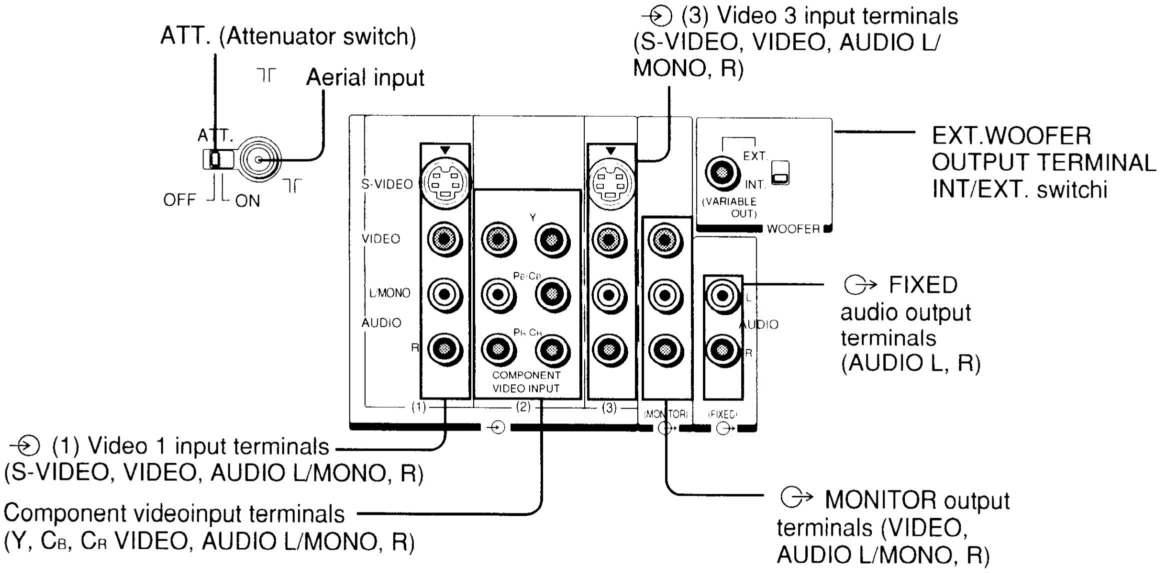
Table-3

LOCATION OF CONTROLS (Representative: 50D9UXE)

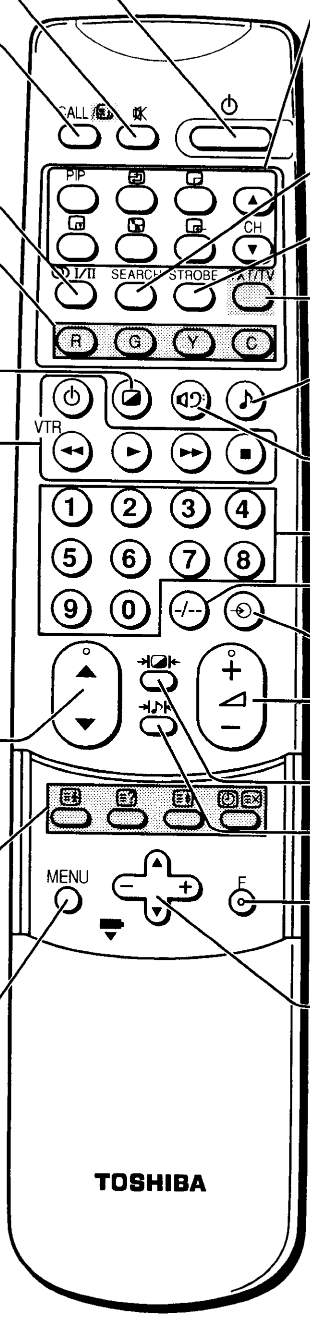
Front


Behind the door
▼ S-VIDEO
AUDIO
VIDEO
L/MONO
R
(3)
MENU
▼ ◿ ▲
▼ CH ▲
Head Phone jack (ø3.5 mm)
PIP Head Phone
(3) Video 3 input terminals (S-VIDEO, VIDEO, AUDIO L/MONO, R)
POWER switch
ON-timer ind
POWER ind
MENU
(TV/VIDEO)
▼ ◿ ▲ (Volume down/up)
▼ CH ▲ (Channel select)

Back


ATT. (Attenuator switch)
Aerial input
ATT.
OFF
ON
(3) Video 3 input terminals (S-VIDEO, VIDEO, AUDIO L/ MONO, R)
EXT.WOOFER OUTPUT TERMINAL INT/EXT. switchi
EXT
INT
(VARIABLE OUT)
WOOFER
S-VIDEO
VIDEO
L/MONO
AUDIO
R
Y
PB·CB
PR·CR
COMPONENT VIDEO INPUT
(1)
(2)
(3)
MONITOR
FIXED
L
AUDIO
R
FIXED audio output terminals (AUDIO L, R)
(1) Video 1 input terminals (S-VIDEO, VIDEO, AUDIO L/MONO, R)
Component videoinput terminals (Y, CB, CR VIDEO, AUDIO L/MONO, R)
MONITOR output terminals (VIDEO, AUDIO L/MONO, R)

Remote Controller



⏻ Power on/standby

Sound mute

CALL (On-screen call)
(index, initial)

Stereo/bilingual select

Text select
R (Red)
G (Green)
Y (Yellow)
C (Cyan)

Picture control

VTR control
⏻ Power on/standby
► Play
■ Stop
◄◄ Rewind
►► Fast forward
Toshiba video recorder can be operated with these buttons.

POSITION ▼/▲
Position down/up
(Channel select)

Teletext
Stop
Reveal/conceal
Full/top/bottom
Time/text cancel

MENU
(Menu open/close)

P-in-P
ON/OFF
Input select
Contrast control
Swap
Still
Location
CH ▼/▲ Channel down/up

SEARCH(Multi window on/off)

STROBE(Strobe on/off)

TXT/TV
(Text/mix/TV select)

♪ Sound control

Bass boost

Direct select

-/-- Digit select

TV/VIDEO input select

–/+ Volume down/up
(Level down/up)

Selectable picture

Selectable sound

F (Quick operation)

Menu ▼/▲ menu item select
Menu –/+ menu item adjust

▨ : The buttons marked with ▨ are not existence for some model.

PROGRAMMING CHANNEL MEMORY

- First, use the ASM (Automatic Search Memory) function to preset all the active channels in your area automatically.
  Then, arrange the preset channels with the MANUAL SEARCH (SEARCH or >>>), MFT (Manual Fine Tuning) and SKIP functions so that you can tune into only desired channels.
- This section shows how to tune in channels using mainly the Remote Controller. You can also perform the system select, ASM, MANUAL SEARCH (SEARCH or >>>), MFT and SKIP operations using the buttons on the TV set.

To preset channels (ASM)

ASM (Automatic Search Memory)

1. Select the first position number you want the ASM to start presetting from with the **POSITION ▼/▲** buttons or the direct select buttons.

2. Press the **MENU** button repeatedly to call up the SET UP menu on the screen.

3. Confirm that "COLOR" is set to "AUTO" and "SOUND" is set to proper system.
   If not, press the **MENU ▼/▲** (or position ▼/▲) buttons to move the cursor (▶) to "COLOR" or "SOUND" then press the **MENU** –/+ (or⊿ –/+) buttons to select the proper systems.

4. Press the **MENU ▼/▲** (or position ▼/▲) buttons to move the cursor (▶) to "ASM".

5. Press the **MENU** + (or⊿ +) button to start the ASM.
   All active channels will be preset automatically.
   When presetting is complete, the initial position number will reappear.

After presetting

Check the preset channels by pressing the **POSITION ▼/▲** buttons.

- If the picture or sound of a certain channel is not good, retune the channel using the ASM, MANUAL SEARCH (SEARCH or >>>) or MFT function.
- If the colour of a certain channel is abnormal, the automatic colour system selection (AUTO) may have malfunctioned, or sound system selection is wrong. In such a case, select another colour and/or sound system.

MFT (Manual Fine Tuning)

The adjustments below are not necessary under normal conditions. However, in areas of inferior broadcast conditions where adjustment is necessary for a better picutre, adjust the tuning with the MFT (Manual Fine Tuning).

1. Select the channel you want to fine-tune with the **POSITION ▼/▲** buttons or direct select buttons.

2. Press the **MENU** button repeatedly to call up the SET UP menu on the screen.

3. Press the **MENU ▼/▲** (or position ▼/▲) buttons to move the cursor (▶) to "MFT".

4. Press the **MENU** –/+ (or⊿ –/+) buttons until the best possible picture and sound are obtained.
   [–]DOWN or [+]UP is highlighted while tuning in.

- Use the MANUAL SEARCH (SEARCH or >>>) function if desired channels cannot be preset with the ASM or if you would like to preset channels to specific position numbers one by one.
- It is convenient to set the channel numbers to the same position numbers using MANUAL SEARCH (SEARCH or >>>) and SKIP functions.

To preset channels (Manual search) and skip unnecessary position numbers

Manual search (SEARCH or >>>)

1. Select a desired position number with the **POSITION** ▼/▲ or direct select buttons.
2. Press the **MENU** button repeatedly to call up the SET UP menu on the screen.
3. Press the **MENU** ▼/▲ (or position ▼/▲) buttons to move the cursor (▶) to " SEARCH or >>> ".
4. Press the **MENU** –/+ (or◿ –/+)buttons to start searching. The **MENU** – (or◿ –) button searches for lower-numbered channels; the **MENU** + (or◿ +) button for higher-numbered channels.
   Repeat this process until you can get the desired channel.
5. When the desired channel is shown, press the **MENU** ▼/▲ buttons (or position ▼/▲) to move the cursor (▶) to "⎆".
6. Press the **MENU** + (or◿ +) button to store the channel at the current position.
7. When you desire to store another channel at another position, move the cursor (▶) to "POSITION" with the **MENU** ▼/▲ (or position ▼/▲)buttons and select a desired position number with the **MENU** –/+ (or◿ –/+)buttons. Then, press the **MENU** ▼/▲ (or position ▼/▲) buttons to move the cursor (▶) to " SEARCH or >>> " and repeat the steps 4 to 7. Or, repeat the steps 1 to 7 after the display disappears.

To skip a position number

After presetting the channels, you may skip unnecessary position numbers so that only the channels you want to watch are selected.

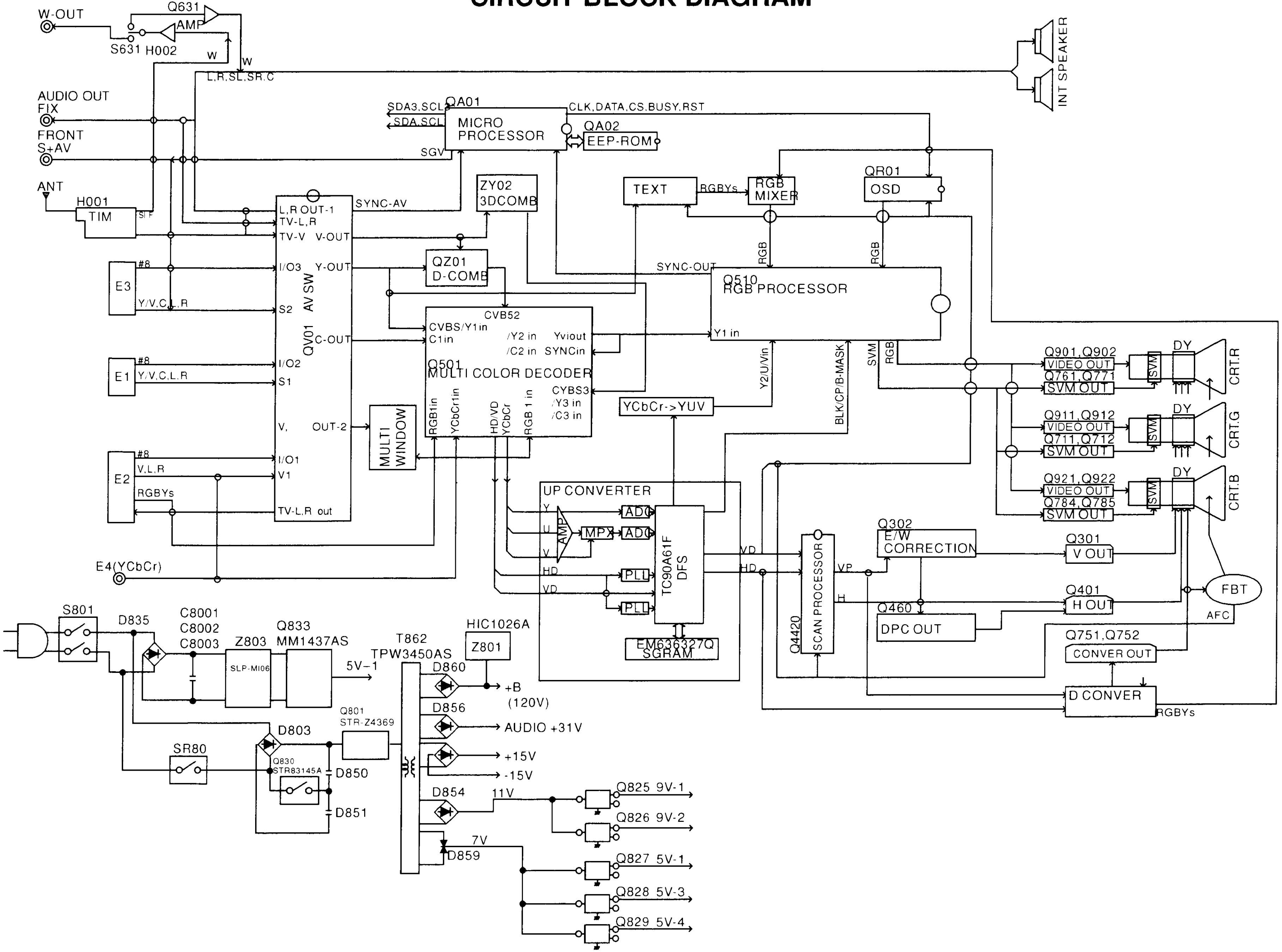
1. Select the position number to be skipped with the **POSITION** ▼/▲ buttons or direct select buttons.
2. Press the **MENU** button repeatedly to call up the SET UP menu on the screen.
3. Press the **MENU** ▼/▲ (or position ▼/▲) buttons to move the cursor (▶) to "SKIP".
4. Press the **MENU** –/+ (or◿ –/+) buttons to select "SKIP ON".
5. Press the **CALL** button to turn off the SET UP menu display.
   Select the position number to be skipped with the direct select buttons. The * mark appears to the left of the position number.
   The position number will then be skipped when you select channels with the **POSITION** ▼/▲ buttons.

To restore a skipped position number

1. Select the position number you want to restore with the direct select buttons.
2. Press the **MENU** button to call up the SET UP menu display and press the **MENU** ▼/▲ (or position ▼/▲) buttons to move the cursor (▶) to "SKIP".
3. Press the **MENU** –/+ (or◿ –/+) buttons to select "SKIP OFF".

*Please refer to owner's manual in detail.

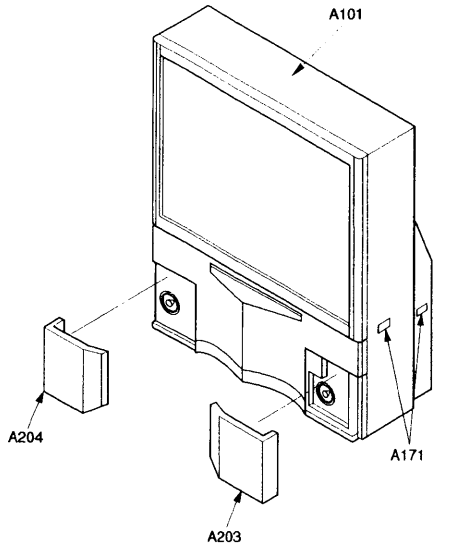
CIRCUIT BLOCK DIAGRAM


W-OUT
Q631
AMP
S631 H002
W
W
L.R.SL.SR.C
INT SPEAKER
AUDIO OUT
FIX
FRONT
S+AV
ANT
H001
TIM
S/F
QA01
MICRO
PROCESSOR
SDA3.SCL
SDA.SCL
SGV
CLK.DATA.CS.BUSY.RST
QA02
EEP-ROM
ZY02
3DCOMB
TEXT
RGBYs
RGB
MIXER
QR01
OSD
RGB
RGB
SYNC-AV
L.R OUT-1
TV-L.R
TV-V
V-OUT
I/O3
Y-OUT
S2
QV01
AV SW
C-OUT
I/O2
S1
V.
OUT-2
I/O1
V1
TV-L.R out
E3
#8
Y/V.C.L.R
E1
#8
Y/V.C.L.R
E2
#8
V.L.R
RGBYs
E4(YCbCr)
QZ01
D-COMB
CVB52
CVBS/Y1in
C1in
/Y2 in
/C2 in
Yviout
SYNCin
Q501
MULTI COLOR DECODER
CYBS3
/Y3 in
/C3 in
RGB1in
YCbCr1in
HD/VD
YCbCr
RGB 1 in
MULTI
WINDOW
SYNC-OUT
Q510
RGB PROCESSOR
Y1 in
Y2/U/Vin
BLK/CP/B-MASK
SVM
RGB
YCbCr->YUV
UP CONVERTER
Y
U
V
HD
VD
AMP
MPX
ADC
ADC
PLL
PLL
TC90A61F
DFS
EM636327Q
SGRAM
VD
HD
Q4420
SCAN PROCESSOR
VP
H
Q302
E/W
CORRECTION
Q460
DPC OUT
Q301
V OUT
Q401
H OUT
FBT
AFC
Q751,Q752
CONVER OUT
D CONVER
RGBYs
Q901,Q902
VIDEO OUT
Q761,Q771
SVM OUT
SVM
DY
CRT.R
Q911,Q912
VIDEO OUT
Q711,Q712
SVM OUT
SVM
DY
CRT.G
Q921,Q922
VIDEO OUT
Q784,Q785
SVM OUT
SVM
DY
CRT.B
S801
D835
C8001
C8002
C8003
Z803
SLP-MI06
Q833
MM1437AS
5V−1
T862
TPW3450AS
HIC1026A
Z801
D860
+B
(120V)
D856
AUDIO +31V
+15V
-15V
D854
11V
7V
D859
SR80
D803
Q830
STR83145A
Q801
STR-Z4369
D850
D851
Q825 9V-1
Q826 9V-2
Q827 5V-1
Q828 5V-3
Q829 5V-4

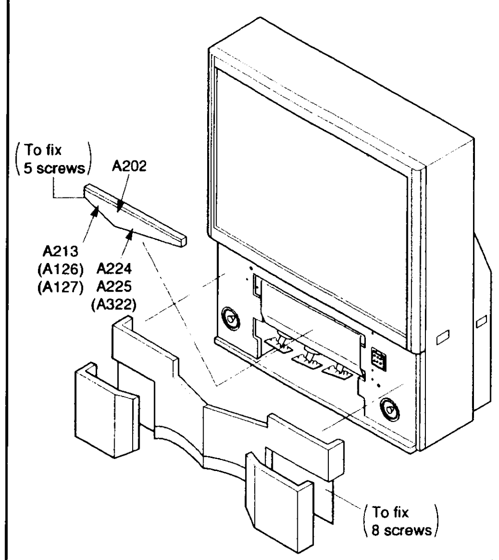
THIS PAGE IS
INTENTIONALLY LEFT
BLANK.

MECHANICAL DISASSEMBLY

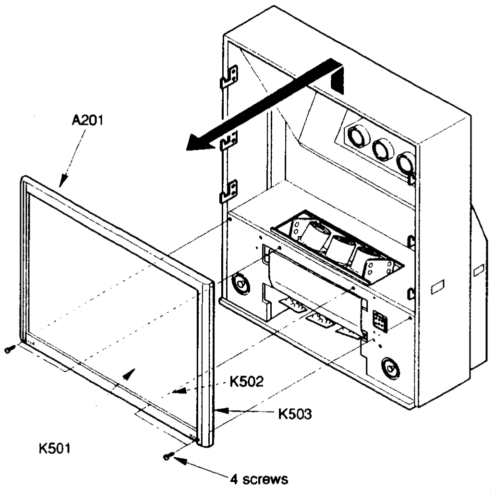
1 Speaker Grille Removal


A101
A204
A171
A203

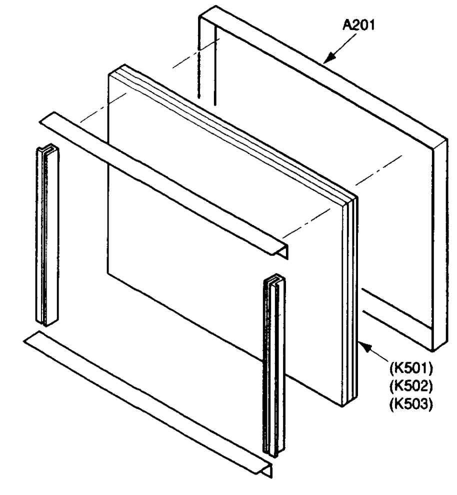
2 Control Panel Removal


(To fix 5 screws)
A202
A213
(A126)
(A127)
A224
A225
(A322)
(To fix 8 screws)

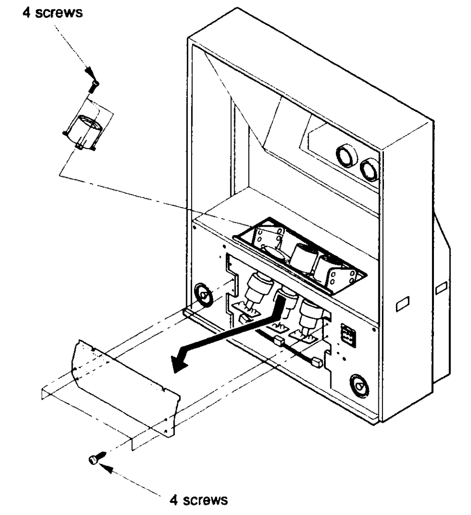
3 Front Mask Removal


A201
K502
K503
K501
4 screws

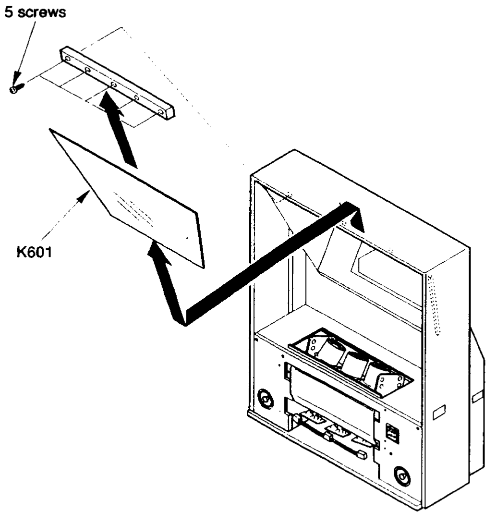
4 Mask Removal


A201
(K501)
(K502)
(K503)

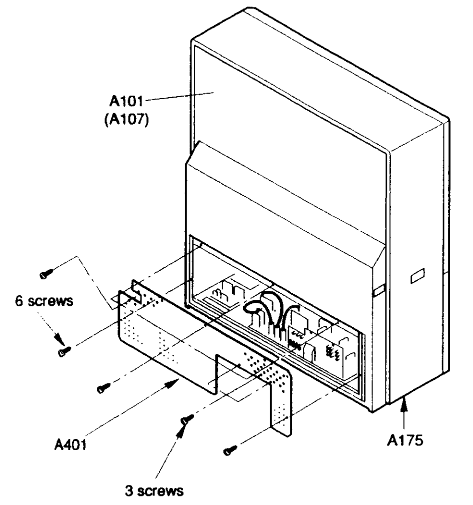
5 Shield Plate, Lens Removal


4 screws
4 screws

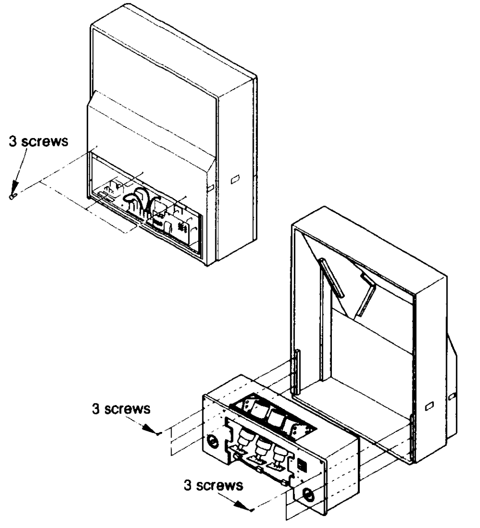
6 Mirror Removal


5 screws
K601

7 Back Board Removal

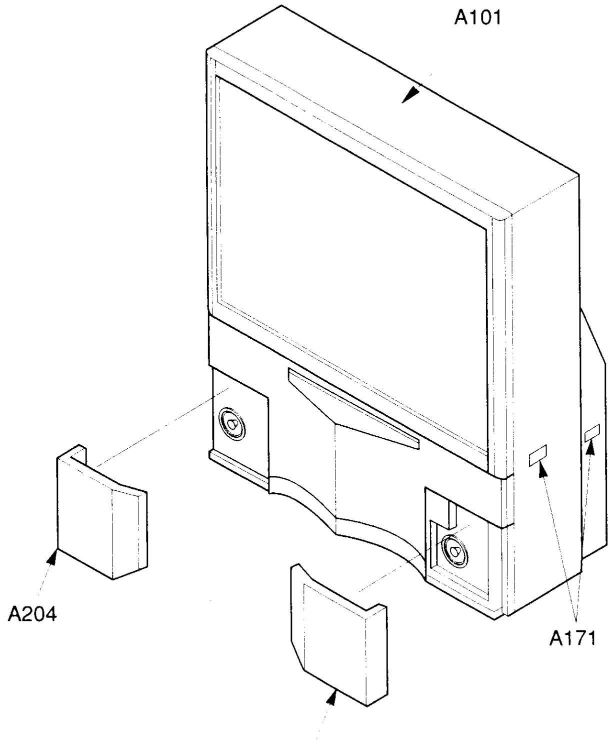

A101
(A107)
6 screws
A401
3 screws
A175

8 Light Box Removal

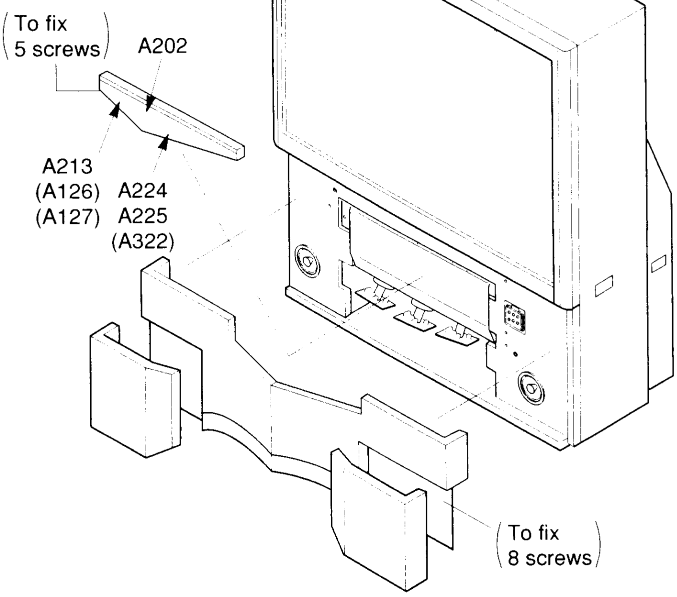

3 screws
3 screws
3 screws

MECHANICA

1 Speaker Grille Removal

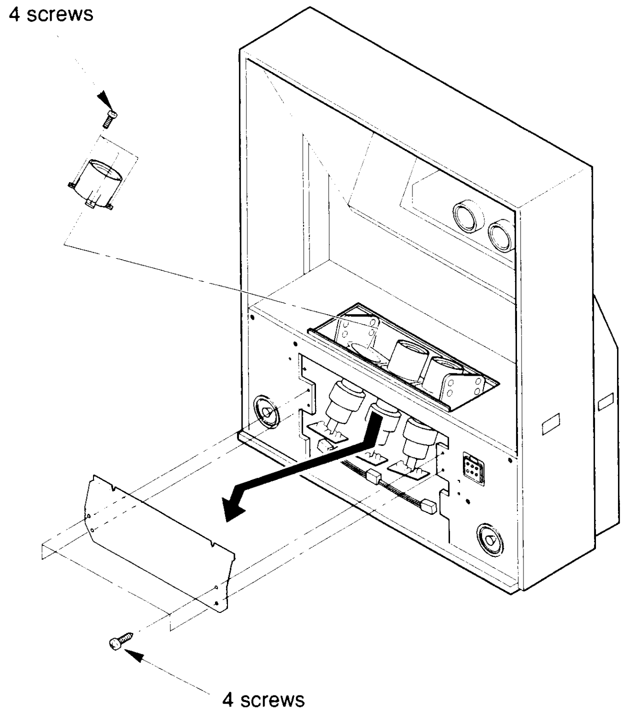

A101
A204
A171
A203

2 Control Panel Removal

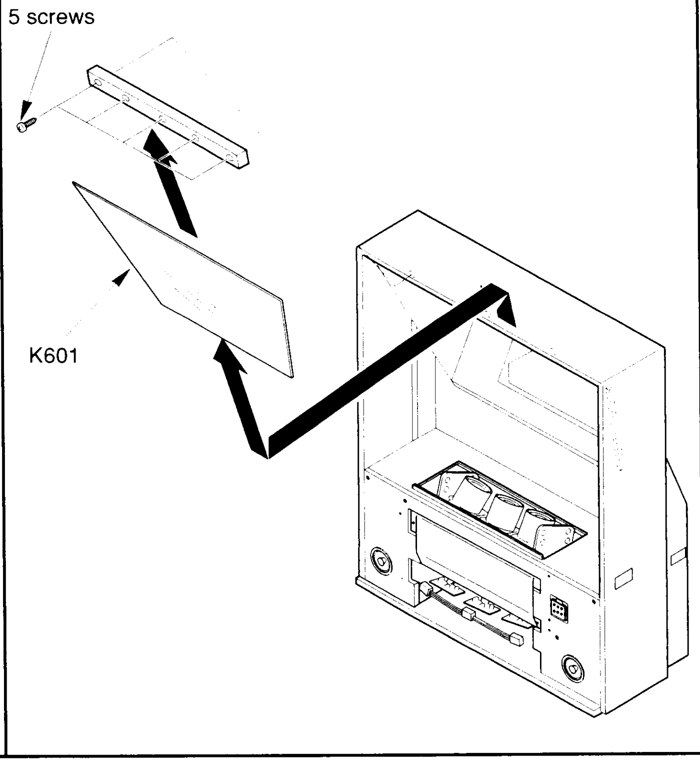

To fix 5 screws
A202
A213
(A126)
(A127)
A224
A225
(A322)
To fix 8 screws

3

5 Shield Plate, Lens Removal

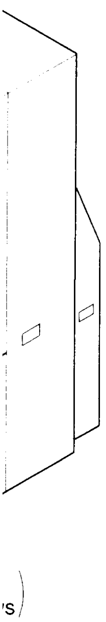

4 screws
4 screws

6 Mirror Removal

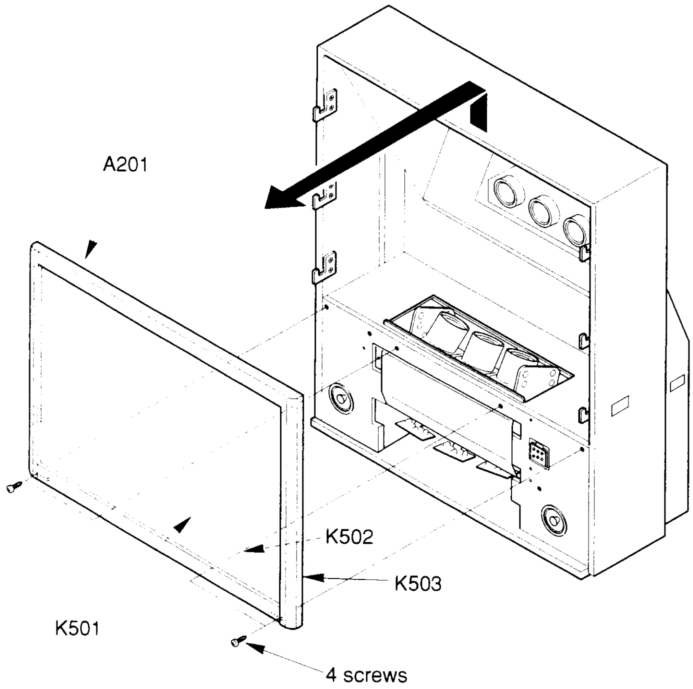

5 screws
K601

7

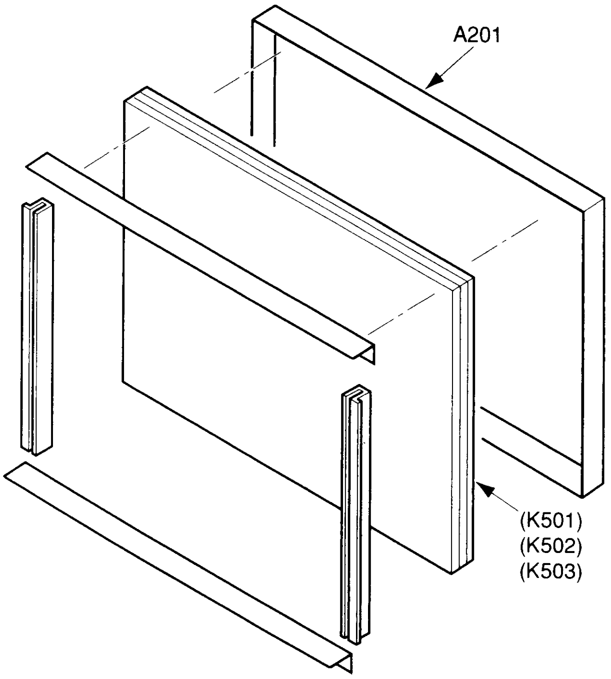
CHANICAL DISASSEMBLY

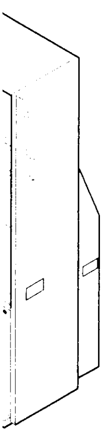


3 Front Mask Removal

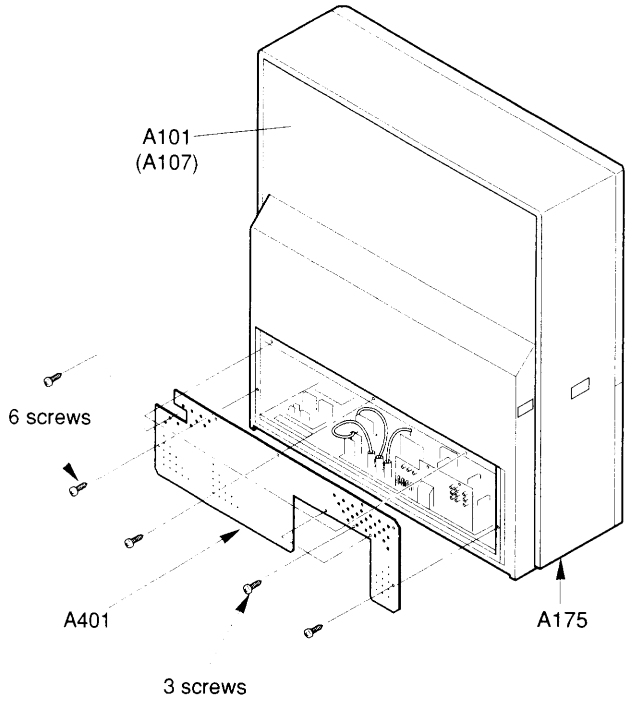

A201
K502
K503
K501
4 screws

4 Mask Removal

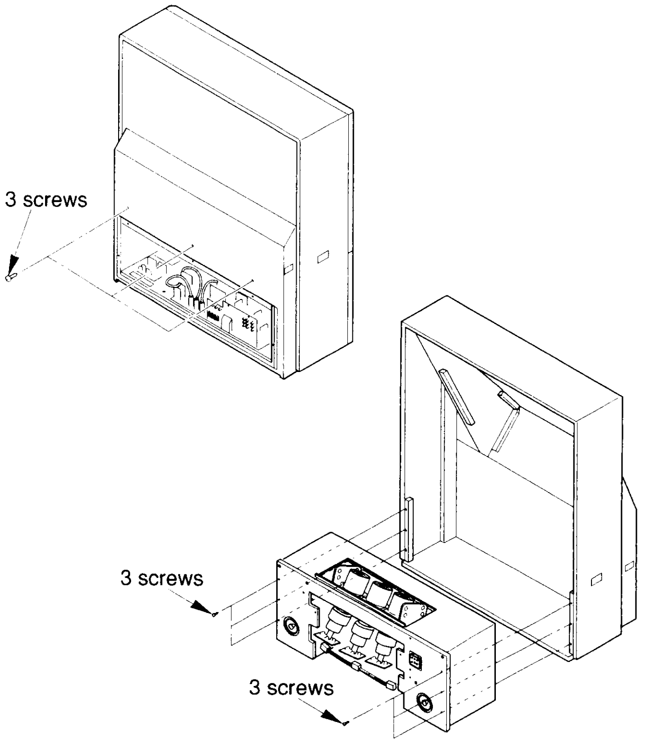

A201
(K501)
(K502)
(K503)



7 Back Board Removal


A101
(A107)
6 screws
A401
A175
3 screws

8 Light Box Removal


3 screws
3 screws
3 screws

THIS PAGE IS
INTENTIONALLY LEFT
BLANK.

THIS PAGE IS
INTENTIONALLY LEFT
BLANK.

GE IS
LLY LEFT
IK.

CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE. Do not degrade the safety of the receiver through improper servicing.

NOTICE:

- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

ABBREVIATIONS:

Capacitors	CD : Ceramic Disk	PF : Plastic Film	EL : Electrolytic
Resistors	CF : Carbon Film	CC : Carbon Composition	MF : Metal Film
	OMF : Oxide Metal Film	VR : Variable Resistor	FR : Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Models :50D9UXE, 50D9UXH, 50D9UXA

Location No.	Part No.	Description
CAPACITORS		
C105	24212102	CD, 1000pF, ±10%
C106	24797100	EL, 10μF, ±20%, 50V
C107	24763221	EL, 220μF, ±20%, 16V
C110	24232103	CD, 0.01μF, +80%, -20%
C111	24794101	EL, 100μF, ±20%, 16V
C115	24232103	CD, 0.01μF, +80%, -20%
C117	24232103	CD, 0.01μF, +80%, -20%
C119	24474102	CD, 1000pF, ±10%
C190	24232103	CD, 0.01μF, +80%, -20%
C199	24666221	EL, 220μF, ±20%, 16V
C201	24206228	EL, 0.22μF, ±20%, 50V
C202	24232103	CD, 0.01μF, +80%, -20%
C203	24591104	PF, 0.1μF
C204	24797010	EL, 1μF, ±20%, 50V
C205	24797229	EL, 2.2μF, ±20%, 50V
C206	24797220	EL, 22μF, ±20%, 50V
C212	24794100	EL, 10μF, ±20%, 16V
C214	24538334	PF, 0.33μF
C215	24474101	CD, 100pF, ±10%
C219	24473100	CD, 10pF
C220	24794101	EL, 100μF, ±20%, 16V
C221	24473100	CD, 10pF
C222	24473100	CD, 10pF
C263	24794470	EL, 47μF, ±20%, 16V
C264	24794100	EL, 10μF, ±20%, 16V
C265	24794470	EL, 47μF, ±20%, 16V
C266	24794100	EL, 10μF, ±20%, 16V
C301	24567683	PF, 0.068μF
C302	24567224	PF, 0.22μF
C303	24567103	PF, 0.01μF
C304	24567104	PF, 0.1μF
C305	24567103	PF, 0.01μF
C306	24591102	PF, 1000pF
C307	24567105	PF, 1μF
C308	24591203	PF, 0.02μF
C309	24591102	PF, 1000pF
C310	24667101	EL, 100μF, ±20%, 25V
C311	24567103	PF, 0.01μF
C312	24591102	PF, 1000pF
C313	24666101	EL, 100μF, ±20%, 16V
C314	24567104	PF, 0.1μF
C315	24666102	EL, 1000μF, ±20%, 16V
C315	24797229	EL, 2.2μF, ±20%, 50V
C316	24666101	EL, 100μF, ±20%, 16V
C317	24591222	PF, 2200pF
C318	24591182	PF, 1800pF
C319	24667101	EL, 100μF, ±20%, 25V
C320	24669101	EL, 100μF, ±20%, 50V
C321	24669101	EL, 100μF, ±20%, 50V
C322	24567393	PF, 0.039μF
C323	24567563	PF, 0.056μF
C324	24669101	EL, 100μF, ±20%, 50V
C325	24082057	PF, 0.22μF, 100V
C326	24567224	PF, 0.22μF
C327	24666101	EL, 100μF, ±20%, 16V
C328	24082260	PF, 4700pF, 100V
C329	24669100	EL, 10μF, ±20%, 50V
C330	24085946	EL, 10μF, ±20%, 16V, Non-Polar
C332	24669221	EL, 220μF, ±20%, 50V
C333	24693473	PF, 0.047μF, 100V
C334	24212471	CD, 470pF, ±10%
C335	24567104	PF, 0.1μF
C350	24567474	PF, 0.47μF
C351	24567104	PF, 0.1μF
C370	24669229	EL, 2.2μF, ±20%, 50V
C371	24591124	PF, 0.12μF
C372	24212101	CD, 100pF, ±10%
C380	24794330	EL, 33μF, ±20%, 16V
C401	24214332	CD, 3300pF, ±10%, 500V
C402	24214391	CD, 390pF, ±10%, 500V
C403	24232103	CD, 0.01μF, +80%, -20%
C404	24797229	EL, 2.2μF, ±20%, 50V
C405	24567124	PF, 0.12μF
C412	24095800	PF, 0.082μF, 400V
C415	24092478	CD, 470pF, ±10%, 2kV
C416	24676220	EL, 22μF, ±20%, 100V
C417	24095716	PF, 1.5μF, ±10%, 250V
C423	24095786	PF, 0.33μF, 400V
C424	24763101	EL, 100μF, ±20%, 16V
C425	24095787	PF, 0.3μF, 400V

Location No.	Part No.	Description
C426	24082608	PF, 4700pF, ±3%, 1800V
C430	24232103	CD, 0.01μF, +80%, -20%
C431	24763102	EL, 1000μF, ±20%, 16V
C432	24567333	PF, 0.033μF
C440	24082937	PF, 2000pF, ±3%, 1500V
C443	24082946	PF, 4700pF, ±3%, 1500V
C444	24082961	PF, 8200pF, ±3%, 1500V
C445	24828473	PF, 0.047μF, 200V
C446	24679330	EL, 33μF, ±20%, 250V
C448	24640908	EL, 33μF, ±20%, 160V
C449	24214221	CD, 220pF, ±10%, 500V
C460	24679330	EL, 33μF, ±20%, 250V
C464	24095900	PF, 3.3μF, ±10%, 100V
C465	24567103	PF, 0.01μF
C466	24591332	PF, 3300pF
C469	24567474	PF, 0.47μF
C470	24095900	PF, 3.3μF, ±10%, 100V
C471	24669479	EL, 4.7μF, ±20%, 50V
C478	24567474	PF, 0.47μF
C481	24666101	EL, 100μF, ±20%, 16V
C482	24591223	PF, 0.022μF
C483	24591472	PF, 4700pF
C484	24591471	PF, 470pF
C502	24232103	CD, 0.01μF, +80%, -20%
C503	24794221	EL, 220μF, ±20%, 16V
C508	24797010	EL, 1μF, ±20%, 50V
C509	24794101	EL, 100μF, ±20%, 16V
C510	24794101	EL, 100μF, ±20%, 16V
C511	24232103	CD, 0.01μF, +80%, -20%
C513	24232103	CD, 0.01μF, +80%, -20%
C514	24567104	PF, 0.1μF
C515	24567104	PF, 0.1μF
C520	24212102	CD, 1000pF, ±10%
C521	24212102	CD, 1000pF, ±10%
C522	24797010	EL, 1μF, ±20%, 50V
C523	24477104	CD, 0.01μF, +80%, -20%
C524	24477104	CD, 0.01μF, +80%, -20%
C525	24477104	CD, 0.01μF, +80%, -20%
C526	24474101	CD, 100pF, ±10%
C541	24567104	PF, 0.1μF
C542	24567104	PF, 0.1μF
C543	24797470	EL, 47μF, ±20%, 50V
C544	24232103	CD, 0.01μF, +80%, -20%
C545	24797470	EL, 47μF, ±20%, 50V
C546	24232103	CD, 0.01μF, +80%, -20%
C547	24567104	PF, 0.1μF
C548	24567104	PF, 0.1μF
C549	24567104	PF, 0.1μF
C550	24797479	EL, 4.7μF, ±20%, 50V
C551	24567104	PF, 0.1μF
C552	24591104	PF, 0.1μF
C553	24567104	PF, 0.1μF
C554	24797470	EL, 47μF, ±20%, 50V
C555	24232103	CD, 0.01μF, +80%, -20%
C560	24353100	CD, 10pF, ±0.25pF, CH
C561	24232103	CD, 0.01μF, +80%, -20%
C562	24797478	EL, 0.47μF, ±20%, 50V
C563	24567104	PF, 0.1μF
C564	24567104	PF, 0.1μF
C565	24567223	PF, 0.022μF
C566	24797229	EL, 2.2μF, ±20%, 50V
C567	24232103	CD, 0.01μF, +80%, -20%
C568	24232103	CD, 0.01μF, +80%, -20%
C569	24232103	CD, 0.01μF, +80%, -20%

Location No.	Part No.	Description
C580	24567104	PF, 0.1μF
C601	24591682	PF, 6800pF
C602	24591682	PF, 6800pF
C609	24794471	EL, 470μF, ±20%, 16V
C610	24591102	PF, 1000pF
C611	24591102	PF, 1000pF
C612	24797479	EL, 4.7μF, ±20%, 50V
C613	24797479	EL, 4.7μF, ±20%, 50V
C614	24669102	EL, 1000μF, ±20%, 50V
C615	24669102	EL, 1000μF, ±20%, 50V
C616	24591124	PF, 0.12μF
C617	24591124	PF, 0.12μF
C618	24797478	EL, 0.47μF, ±20%, 50V
C619	24793220	EL, 22μF, ±20%, 10V
C620	24795470	EL, 47μF, ±20%, 25V
C621	24795470	EL, 47μF, ±20%, 25V
C622	24795470	EL, 47μF, ±20%, 25V
C623	24797479	EL, 4.7μF, ±20%, 50V
C624	24591103	PF, 0.01μF
C625	24797102	EL, 1000μF, ±20%, 50V
C627	24794100	EL, 10μF, ±20%, 16V
C665	24797010	EL, 1μF, ±20%, 50V
C666	24797010	EL, 1μF, ±20%, 50V
C704	24232103	CD, 0.01μF, +80%, -20%
C705	24206479	EL, 4.7μF, ±20%, 50V
C707	24797470	EL, 47μF, ±20%, 50V
C712	24797470	EL, 47μF, ±20%, 50V
C713	24790470	EL, 47μF, ±20%, 160V
C715	24214472	CD, 4700pF, ±10%, 500V
C717	24214472	CD, 4700pF, ±10%, 500V
C718	24666470	EL, 47μF, ±20%, 16V
C719	24435560	CD, 56pF, 500V
C720	24790220	EL, 22μF, ±20%, 160V
C721	24666470	EL, 47μF, ±20%, 16V
C722	24436820	CD, 82pF
C726	24212102	CD, 1000pF, ±10%
C760	24797470	EL, 47μF, ±20%, 50V
C761	24212102	CD, 1000pF, ±10%
C762	24797470	EL, 47μF, ±20%, 50V
C765	24214472	CD, 4700pF, ±10%, 500V
C766	24214472	CD, 4700pF, ±10%, 500V
C767	24790470	EL, 47μF, ±20%, 160V
C768	24666470	EL, 47μF, ±20%, 16V
C769	24666470	EL, 47μF, ±20%, 16V
C770	24435560	CD, 56pF, 500V
C771	24790220	EL, 22μF, ±20%, 160V
C780	24797470	EL, 47μF, ±20%, 50V
C781	24212102	CD, 1000pF, ±10%
C782	24797470	EL, 47μF, ±20%, 50V
C784	24214472	CD, 4700pF, ±10%, 500V
C786	24214472	CD, 4700pF, ±10%, 500V
C787	24790470	EL, 47μF, ±20%, 160V
C788	24666470	EL, 47μF, ±20%, 16V
C789	24666470	EL, 47μF, ±20%, 16V
C790	24435560	CD, 56pF, 500V
C791	24790220	EL, 22μF, ±20%, 160V
C792	24666100	EL, 10μF, ±20%, 16V
⚠C801	24503002	PF, 0.22μF, ±20%, AC275V
⚠C802	24092557	CD, 220pF, ±20%, AC250V
⚠C803	24092557	CD, 220pF, ±20%, AC250V
⚠C804	24092570	CD, 3300pF, ±20%, AC250V
⚠C805	24503002	PF, 0.22μF, ±20%, AC275V
⚠C806	24503002	PF, 0.22μF, ±20%, AC275V
⚠C807	24092557	CD, 220pF, ±20%, AC250V

Location No.	Part No.	Description
⚠C808	24503002	PF, 0.22μF, ±20%, AC275V
C811	24678478	EL, 0.47μF, ±20%, 200V
C814	24678229	EL, 2.2μF, ±20%, 200V
C815	24567474	PF, 0.47μF
C816	24617817	EL, 22μF, ±20%, 50V
C817	24567224	PF, 0.22μF
C819	24214102	CD, 1000pF, ±10%, 500V
C820	24567224	PF, 0.22μF
C821	24092480	CD, 680pF, ±10%, 2kV
C822	24092481	CD, 820pF, ±10%, 2kV
⚠C823	24092478	CD, 470pF, ±10%, 2kV
C825	24591472	PF, 4700pF
C826	24092474	CD, 220pF, ±10%, 2kV
C828	24820683	PF, 0.068μF, 630V
C829	24617820	EL, 100μF, ±20%, 50V
C830	24567105	PF, 1μF
C831	24669220	EL, 22μF, ±20%, 50V
C832	24503001	PF, 0.1μF
C833	24073101	EL, 47μF, ±20%, 400V
C836	24667101	EL, 100μF, ±20%, 25V
C837	24666331	EL, 330μF, ±20%, 16V
C839	24669220	EL, 22μF, ±20%, 50V
C840	24591104	PF, 0.1μF
C841	24669220	EL, 22μF, ±20%, 50V
C842	24591104	PF, 0.1μF
C843	24669010	EL, 1μF, ±20%, 50V
C844	24092281	CD, 4700pF, ±20%, AC250V
C845	24092281	CD, 4700pF, ±20%, AC250V
C846	24073098	EL, 4.7μF, ±20%, 450V
C847	24669479	EL, 4.7μF, ±20%, 50V
C848	24567473	PF, 0.047μF
C849	24082081	PF, 0.033μF, 630V
C850	24086068	EL, 820μF, ±20%, 200V
C851	24086068	EL, 820μF, ±20%, 200V
C852	24666100	EL, 10μF, ±20%, 16V
C853	24591104	PF, 0.1μF
C858	24214471	CD, 470pF, ±10%, 500V
C859	24214471	CD, 470pF, ±10%, 500V
C860	24668222	EL, 2200μF, ±20%, 35V
C861	24617810	EL, 4700μF, ±20%, 35V
C863	24617810	EL, 4700μF, ±20%, 35V
C864	24677470	EL, 47μF, ±20%, 160V
C865	24667471	EL, 470μF, ±20%, 25V
C866	24667471	EL, 470μF, ±20%, 25V
C869	24669222	EL, 2200μF, ±20%, 50V
C874	24212102	CD, 1000pF, ±10%
C875	24667472	EL, 4700μF, ±20%, 25V
C876	24086916	EL, 330μF, ±20%, 160V
C879	24092475	CD, 270pF, ±10%, 2kV
C880	24092475	CD, 270pF, ±10%, 2kV
C882	24617817	EL, 22μF, ±20%, 50V
C883	24082229	PF, 0.1μF, ±10%, 250V
C884	24617816	EL, 10μF, ±20%, 50V
C885	24617813	EL, 2.2μF, ±20%, 50V
C886	24797100	EL, 10μF, ±20%, 50V
C887	24794470	EL, 47μF, ±20%, 16V
C889	24669010	EL, 1μF, ±20%, 50V
C890	24797100	EL, 10μF, ±20%, 50V
C891	24794470	EL, 47μF, ±20%, 16V
C892	24669229	EL, 2.2μF, ±20%, 50V
C893	24797100	EL, 10μF, ±20%, 50V
C894	24794470	EL, 47μF, ±20%, 16V
C895	24797100	EL, 10μF, ±20%, 50V
C896	24794470	EL, 47μF, ±20%, 16V
C897	24797100	EL, 10μF, ±20%, 50V
C898	24794470	EL, 47μF, ±20%, 16V
C901	24211102	CD, 1000pF, ±10%, 2kV
C902	24794100	EL, 10μF, ±20%, 16V
C903	24232103	CD, 0.01μF, +80%, -20%
C904	24436391	CD, 390pF
C907	24214101	CD, 100pF, ±10%, 500V
C908	24436390	CD, 39pF
C909	24794470	EL, 47μF, ±20%, 16V
C911	24211102	CD, 1000pF, ±10%, 2kV
C912	24794100	EL, 10μF, ±20%, 16V
C913	24232103	CD, 0.01μF, +80%, -20%
C914	24436471	CD, 470pF
C915	24679330	EL, 33μF, ±20%, 250V
C917	24214101	CD, 100pF, ±10%, 500V
C918	24567104	PF, 0.1μF
C919	24794470	EL, 47μF, ±20%, 16V
C921	24211102	CD, 1000pF, ±10%, 2kV
C922	24794100	EL, 10μF, ±20%, 16V
C923	24436391	CD, 390pF
C924	24232103	CD, 0.01μF, +80%, -20%
C926	24214101	CD, 100pF, ±10%, 500V
C927	24567104	PF, 0.1μF
C928	24794100	EL, 10μF, ±20%, 16V
C961	24794100	EL, 10μF, ±20%, 16V
C962	24794100	EL, 10μF, ±20%, 16V
C963	24567104	PF, 0.1μF
C964	24567104	PF, 0.1μF
C3051	24666330	EL, 33μF, ±20%, 16V
C3150	24666102	EL, 1000μF, ±20%, 16V
C4402	24669010	EL, 1μF, ±20%, 50V
C4405	24591103	PF, 0.01μF
C4408	24591103	PF, 0.01μF
C4418	24591103	PF, 0.01μF
C4425	24669010	EL, 1μF, ±20%, 50V
C4426	24666101	EL, 100μF, ±20%, 16V
C4430	24669479	EL, 4.7μF, ±20%, 50V
C4447	24591103	PF, 0.01μF
C7704	24667101	EL, 100μF, ±20%, 25V
C7705	24567474	PF, 0.47μF
C7706	24567474	PF, 0.47μF
C7707	24667101	EL, 100μF, ±20%, 25V
C7708	24436150	CD, 15pF
C7709	24436150	CD, 15pF
C7710	24436150	CD, 15pF
C7711	24436150	CD, 15pF
C7712	24436150	CD, 15pF
C7713	24436150	CD, 15pF
C7714	24436150	CD, 15pF
C7715	24436150	CD, 15pF
C7716	24436150	CD, 15pF
C7717	24436150	CD, 15pF
C7718	24436150	CD, 15pF
C7719	24436150	CD, 15pF
C7721	24212102	CD, 1000pF, ±10%
C7722	24436331	CD, 330pF
C7724	24667331	EL, 330μF, ±20%, 25V
C7725	24667331	EL, 330μF, ±20%, 25V
C7726	24212102	CD, 1000pF, ±10%
C7727	24436331	CD, 330pF
C7729	24212102	CD, 1000pF, ±10%
C7730	24436331	CD, 330pF
C7732	24436331	CD, 330pF
C7733	24436331	CD, 330pF

Location No.	Part No.	Description
C7735	24667331	EL, 330μF, ±20%, 25V
C7736	24667331	EL, 330μF, ±20%, 25V
C7737	24212102	CD, 1000pF, ±10%
C7738	24436331	CD, 330pF
C7740	24436331	CD, 330pF
C7741	24436331	CD, 330pF
C7751	24667101	EL, 100μF, ±20%, 25V
C7752	24567474	PF, 0.47μF
C7753	24567474	PF, 0.47μF
C7754	24667101	EL, 100μF, ±20%, 25V
C7760	24667470	EL, 47μF, ±20%, 25V
C7761	24667100	EL, 10μF, ±20%, 25V
C7763	24667470	EL, 47μF, ±20%, 25V
C7767	24667101	EL, 100μF, ±20%, 25V
C7768	24667101	EL, 100μF, ±20%, 25V
C7769	24232103	CD, 0.01μF, +80%, -20%
C7770	24667471	EL, 470μF, ±20%, 25V
C7771	24667471	EL, 470μF, ±20%, 25V
C7774	24436101	CD, 100pF
C7776	24667100	EL, 10μF, ±20%, 25V
C7779	24436331	CD, 330pF
C7830	24667100	EL, 10μF, ±20%, 25V
⚠C8130	24503001	PF, 0.1μF
C8610	24669478	EL, 0.47μF, ±20%, 50V
C8611	24669478	EL, 0.47μF, ±20%, 50V
C8612	24669478	EL, 0.47μF, ±20%, 50V
C8613	24669478	EL, 0.47μF, ±20%, 50V
CA13	24474101	CD, 100pF, ±10%
CA30	24474101	CD, 100pF, ±10%
CA33	24232103	CD, 0.01μF, +80%, -20%
CA37	24474101	CD, 100pF, ±10%
CA38	24474101	CD, 100pF, ±10%
CA40	24474101	CD, 100pF, ±10%
CA41	24474101	CD, 100pF, ±10%
CA42	24794100	EL, 10μF, ±20%, 16V
CA43	24232103	CD, 0.01μF, +80%, -20%
CA44	24232103	CD, 0.01μF, +80%, -20%
CA68	24794100	EL, 10μF, ±20%, 16V
CA69	24232103	CD, 0.01μF, +80%, -20%
CA80	24794100	EL, 10μF, ±20%, 16V
CA421	24232103	CD, 0.01μF, +80%, -20%
CB01	24794470	EL, 47μF, ±20%, 16V
CB90	24232103	CD, 0.01μF, +80%, -20%
CC01	24212103	CD, 0.01μF, ±10%
CC23	24436220	CD, 22pF
CC33	24436101	CD, 100pF
CF01	24793471	EL, 470μF, ±20%, 10V (50D9UXE/50D9UXA)
CF03	24567104	PF, 0.1μF (50D9UXE/50D9UXA)
CF04	24766101	EL, 100μF, ±20%, 50V (50D9UXE/50D9UXA)
CF05	24766101	EL, 100μF, ±20%, 50V (50D9UXE/50D9UXA)
CF06	24353220	CD, 22pF, CH (50D9UXE/50D9UXA)
CF07	24353220	CD, 22pF, CH (50D9UXE/50D9UXA)
CF08	24567104	PF, 0.1μF (50D9UXE/50D9UXA)
CF09	24567104	PF, 0.1μF (50D9UXE/50D9UXA)
CF10	24206100	EL, 10μF, ±20%, 50V (50D9UXE/50D9UXA)
CF11	24567104	PF, 0.1μF (50D9UXE/50D9UXA)
CF12	24232103	CD, 0.01μF, +80%, -20% (50D9UXE/50D9UXA)

Location No.	Part No.	Description
CF13	24436101	CD, 100pF (50D9UXE/50D9UXA)
CF14	24232103	CD, 0.01μF, +80%, -20% (50D9UXE/50D9UXA)
CF15	24232103	CD, 0.01μF, +80%, -20% (50D9UXE/50D9UXA)
CF16	24567224	PF, 0.22μF (50D9UXE/50D9UXA)
CG01	24567124	PF, 0.12μF
CG02	24567104	PF, 0.1μF
CG03	24567823	PF, 0.082μF
CG04	24206010	EL, 1μF, ±20%, 50V
CG05	24797220	EL, 22μF, ±20%, 50V
CG07	24206010	EL, 1μF, ±20%, 50V
CG08	24206010	EL, 1μF, ±20%, 50V
CG09	24206010	EL, 1μF, ±20%, 50V
CG12	24591273	PF, 0.027μF
CG13	24232103	CD, 0.01μF, +80%, -20%
CG14	24203101	EL, 100μF, ±20%, 16V
CG15	24591822	PF, 8200pF
CG16	24206010	EL, 1μF, ±20%, 50V
CG17	24591273	PF, 0.027μF
CG18	24591822	PF, 8200pF
CG20	24203100	EL, 10μF, ±20%, 16V
CG24	24474102	CD, 1000pF, ±10%
CG25	24206229	EL, 2.2μF, ±20%, 50V
CG26	24206229	EL, 2.2μF, ±20%, 50V
CG30	24203100	EL, 10μF, ±20%, 16V
CG31	24232103	CD, 0.01μF, +80%, -20%
CG32	24232103	CD, 0.01μF, +80%, -20%
CG33	24232103	CD, 0.01μF, +80%, -20%
CR12	24567104	PF, 0.1μF
CR13	24567104	PF, 0.1μF
CR14	24567104	PF, 0.1μF
CR99	24232103	CD, 0.01μF, +80%, -20%
CS01	24206229	EL, 2.2μF, ±20%, 50V
CS02	24206229	EL, 2.2μF, ±20%, 50V
CS03	24797229	EL, 2.2μF, ±20%, 50V
CS05	24206229	EL, 2.2μF, ±20%, 50V
CS06	24206229	EL, 2.2μF, ±20%, 50V
CS07	24206229	EL, 2.2μF, ±20%, 50V
CS08	24206229	EL, 2.2μF, ±20%, 50V
CS09	24206229	EL, 2.2μF, ±20%, 50V
CS14	24206100	EL, 10μF, ±20%, 50V
CS15	24206100	EL, 10μF, ±20%, 50V
CS16	24206229	EL, 2.2μF, ±20%, 50V
CS19	24206478	EL, 0.47μF, ±20%, 50V
CS20	24206100	EL, 10μF, ±20%, 50V
CS21	24206100	EL, 10μF, ±20%, 50V
CS670	24669100	EL, 10μF, ±20%, 50V
CS671	24669100	EL, 10μF, ±20%, 50V
CS672	24212101	CD, 100pF, ±10%
CS673	24212102	CD, 1000pF, ±10%
CS674	24669100	EL, 10μF, ±20%, 50V
CS675	24669100	EL, 10μF, ±20%, 50V
CS676	24669100	EL, 10μF, ±20%, 50V
CS677	24668221	EL, 220μF, ±20%, 35V
CS678	24206229	EL, 2.2μF, ±20%, 50V
CV02	24073077	EL, 0.1μF, ±20%, 50V
CV03	24073077	EL, 0.1μF, ±20%, 50V
CV04	24073077	EL, 0.1μF, ±20%, 50V
CV05	24232103	CD, 0.01μF, +80%, -20%
CV06	24073077	EL, 0.1μF, ±20%, 50V
CV07	24232103	CD, 0.01μF, +80%, -20%

Location No.	Part No.	Description
CV08	24763221	EL, 220μF, ±20%, 16V
CV09	24073077	EL, 0.1μF, ±20%, 50V
CV12	24567104	PF, 0.1μF
CV23	24794101	EL, 100μF, ±20%, 16V
CV24	24232103	CD, 0.01μF, +80%, -20%
CV25	24794220	EL, 22μF, ±20%, 16V
CV26	24567473	PF, 0.047μF
CV35	24474102	CD, 1000pF, ±10%
CV37	24474102	CD, 1000pF, ±10%
CV46	24232103	CD, 0.01μF, +80%, -20%
CV48	24232103	CD, 0.01μF, +80%, -20%
CV51	24666101	EL, 100μF, ±20%, 16V
CV52	24666100	EL, 10μF, ±20%, 16V
CV55	24232103	CD, 0.01μF, +80%, -20%
CV64	24797010	EL, 1μF, ±20%, 50V
CV71	24794471	EL, 470μF, ±20%, 16V
CV73	24212103	CD, 0.01μF, ±10%
CY102	24666221	EL, 220μF, ±20%, 16V
CY103	24232103	CD, 0.01μF, +80%, -20%
CY104	24794101	EL, 100μF, ±20%, 16V
CY109	24232103	CD, 0.01μF, +80%, -20%
CY111	24797479	EL, 4.7μF, ±20%, 50V
CY117	24232103	CD, 0.01μF, +80%, -20%
CY601	24794101	EL, 100μF, ±20%, 16V
CY602	24797479	EL, 4.7μF, ±20%, 50V
CY603	24797479	EL, 4.7μF, ±20%, 50V
CY604	24794102	EL, 1000μF, ±20%, 16V
CY605	24797479	EL, 4.7μF, ±20%, 50V
CY606	24797479	EL, 4.7μF, ±20%, 50V
CY608	24794101	EL, 100μF, ±20%, 16V
CY610	24797478	EL, 0.47μF, ±20%, 50V
CZ01	24474101	CD, 100pF, ±10%
CZ02	24474101	CD, 100pF, ±10%
CZ03	24085901	EL, 0.47μF, ±20%, 50V, Non-Polar
CZ05	24232103	CD, 0.01μF, +80%, -20%
CZ07	24567104	PF, 0.1μF
CZ09	24473220	CD, 22pF
CZ10	24473100	CD, 10pF
CZ11	24473220	CD, 22pF
CZ12	24232103	CD, 0.01μF, +80%, -20%
CZ13	24232103	CD, 0.01μF, +80%, -20%
CZ14	24794100	EL, 10μF, ±20%, 16V
CZ17	24232103	CD, 0.01μF, +80%, -20%
CZ19	24474181	CD, 180pF, ±10%
CZ20	24232103	CD, 0.01μF, +80%, -20%
CZ21	24212122	CD, 1200pF, ±10%
CZ22	24794100	EL, 10μF, ±20%, 16V
CZ23	24232103	CD, 0.01μF, +80%, -20%
CZ24	24232103	CD, 0.01μF, +80%, -20%
CZ25	24794100	EL, 10μF, ±20%, 16V
CZ26	24232103	CD, 0.01μF, +80%, -20%
CZ28	24232103	CD, 0.01μF, +80%, -20%
CZ29	24232103	CD, 0.01μF, +80%, -20%
CZ30	24794100	EL, 10μF, ±20%, 16V
CZ31	24567104	PF, 0.1μF
CZ32	24474101	CD, 100pF, ±10%
CZ33	24473270	CD, 27pF
CZ34	24474101	CD, 100pF, ±10%
CZ35	24473270	CD, 27pF
CZ45	24473100	CD, 10pF

Location No.	Part No.	Description
RESISTORS		
R180	24366103	CF, 10k ohm
R181	24366103	CF, 10k ohm
R185	24366103	CF, 10k ohm
R186	24366103	CF, 10k ohm
R204	24366104	CF, 100k ohm
R205	24366101	CF, 100 ohm
R206	24366221	CF, 220 ohm
R213	24366681	CF, 680 ohm
R214	24366681	CF, 680 ohm
R215	24366681	CF, 680 ohm
R216	24366103	CF, 10k ohm
R218	24366101	CF, 100 ohm
R219	24366101	CF, 100 ohm
R220	24366101	CF, 100 ohm
R229	24366392	CF, 3900 ohm
R230	24366101	CF, 100 ohm
R231	24366222	CF, 2200 ohm
R235	24366222	CF, 2200 ohm
R236	24366101	CF, 100 ohm
R237	24366101	CF, 100 ohm
R238	24366562	CF, 5600 ohm
R241	24367563	CF, 56k ohm, ±2%
R242	24367153	CF, 15k ohm, ±2%
R247	24366102	CF, 1k ohm
R258	24366101	CF, 100 ohm
R259	24366101	CF, 100 ohm
R260	24366222	CF, 2200 ohm
R261	24366681	CF, 680 ohm
R262	24366102	CF, 1k ohm
R263	24366102	CF, 1k ohm
R264	24366103	CF, 10k ohm
R265	24366392	CF, 3900 ohm
R266	24366332	CF, 3300 ohm
R267	24366101	CF, 100 ohm
R269	24366151	CF, 150 ohm
R270	24366102	CF, 1k ohm
R271	24366472	CF, 4700 ohm
R272	24366222	CF, 2200 ohm
R273	24366821	CF, 820 ohm
R274	24366103	CF, 10k ohm
R275	24366392	CF, 3900 ohm
R276	24366102	CF, 1k ohm
R277	24366101	CF, 100 ohm
R278	24366102	CF, 1k ohm
R279	24366332	CF, 3300 ohm
R301	24366103	CF, 10k ohm
R302	24366101	CF, 100 ohm
R303	24366103	CF, 10k ohm
R304	24366103	CF, 10k ohm
R305	24322828	MF, 0.82 ohm, 1W
R306	24366123	CF, 12k ohm
R307	24366101	CF, 100 ohm
R308	24366101	CF, 100 ohm
R310	24366562	CF, 5600 ohm
R312	24366103	CF, 10k ohm
R314	24366473	CF, 47k ohm
R315	24366821	CF, 820 ohm
R316	24366102	CF, 1k ohm
R319	24366100	CF, 10 ohm
R320	24000249	MF, 47k ohm, 1/4W
R321	24366472	CF, 4700 ohm
R322	24000635	MF, 12k ohm, ±1%, 1/4W
R323	24000635	MF, 12k ohm, ±1%, 1/4W

Location No.	Part No.	Description
R324	24366103	CF, 10k ohm
R325	24366472	CF, 4700 ohm
R326	24366103	CF, 10k ohm
R327	24366103	CF, 10k ohm
R328	24000633	MF, 10k ohm, 1/4W
R329	24366103	CF, 10k ohm
R330	24000221	MF, 20k ohm, 1/4W
R331	24019119	MF, 30k ohm, 1/6W
R332	24000525	MF, 4700 ohm, 1/4W
R333	24366103	CF, 10k ohm
R334	24366102	CF, 1k ohm
R335	24366102	CF, 1k ohm
R336	24366102	CF, 1k ohm
R337	24321129	MF, 1.2 ohm, 1/2W
R338	24366123	CF, 12k ohm
R339	24366393	CF, 39k ohm
R340	24366824	CF, 820k ohm
R341	24366273	CF, 27k ohm
R342	24366822	CF, 8200 ohm
R343	24366102	CF, 1k ohm
R344	24382271	OMF, 270 ohm, 1W
R346	24382391	OMF, 390 ohm, 1W
R347	24366103	CF, 10k ohm
R348	24366103	CF, 10k ohm
R349	24366392	CF, 3900 ohm
R350	24366822	CF, 8200 ohm
R351	24366472	CF, 4700 ohm
R360	24366123	CF, 12k ohm
R362	24366103	CF, 10k ohm
R363	24366682	CF, 6800 ohm
R364	24366103	CF, 10k ohm
R370	24366222	CF, 2200 ohm
R371	24366824	CF, 820k ohm
R372	24366333	CF, 33k ohm
R373	24366823	CF, 82k ohm
R374	24366104	CF, 100k ohm
R375	24366153	CF, 15k ohm
R376	24366333	CF, 33k ohm
R377	24366102	CF, 1k ohm
R378	24366562	CF, 5600 ohm
R379	24366103	CF, 10k ohm
R380	24366223	CF, 22k ohm
R381	24366822	CF, 8200 ohm
R385	24366102	CF, 1k ohm
R386	24366103	CF, 10k ohm
R390	24383561	OMF, 560 ohm, 2W
R391	24383561	OMF, 560 ohm, 2W
R392	24383561	OMF, 560 ohm, 2W
R401	24366391	CF, 390 ohm
R403	24366392	CF, 3900 ohm
R403	24382561	OMF, 560 ohm, 1W
R404	24366103	CF, 10k ohm
R405	24366101	CF, 100 ohm
R406	24382222	OMF, 2200 ohm, 1W
R407	24381100	OMF, 10 ohm, 1/2W
R409	24384220	OMF, 22 ohm, 3W
R410	24384220	OMF, 22 ohm, 3W
R411	24323479	MF, 4.7 ohm, 2W
R412	24383223	OMF, 22k ohm, 2W
R413	24366101	CF, 100 ohm
R414	24019259	FR, 27ohm, 1/4W
R416	24383121	OMF, 120 ohm, 2W
R419	24942102	CC, 1k ohm, 1/2W
R421	24382104	OMF, 100k ohm, 1W

Location No.	Part No.	Description
R424	24366103	CF, 10k ohm
R430	24366105	CF, 1M ohm
R431	24383102	OMF, 1k ohm, 2W
R432	24942274	CC, 270k ohm, 1/2W
R433	24942274	CC, 270k ohm, 1/2W
R434	24942274	CC, 270k ohm, 1/2W
R436	24366101	CF, 100 ohm
R443	24310109	MF, 1.0 ohm, 1/2W
R444	24338398	MF, 0.39 ohm, 1W
R445	24366102	CF, 1k ohm
R446	24366153	CF, 15k ohm
R447	24382473	OMF, 47k ohm, 1W
R448	24366103	CF, 10k ohm
R449	24366152	CF, 1500 ohm
R452	24366102	CF, 1k ohm
R453	24366102	CF, 1k ohm
R460	24366103	CF, 10k ohm
R461	24366103	CF, 10k ohm
R462	24366103	CF, 10k ohm
R463	24366103	CF, 10k ohm
R464	24366472	CF, 4700 ohm
R465	24366474	CF, 470k ohm
R467	24366124	CF, 120k ohm
R468	24366153	CF, 15k ohm
R469	24366101	CF, 100 ohm
R470	24366224	CF, 220k ohm
R471	24000112	FR, 10 ohm, 1/4W
R472	24366153	CF, 15k ohm
R473	24000633	MF, 10k ohm, 1/4W
R474	24000358	MF, 1k ohm, 1/4W
R476	24000368	MF, 2700 ohm, 1/4W
R478	24339828	MF, 0.82 ohm, 2W
R479	24366823	CF, 82k ohm
R480	24000639	MF, 22k ohm, 1/4W
R482	24366103	CF, 10k ohm
R483	24366102	CF, 1k ohm
R484	24366474	CF, 470k ohm
R485	24366103	CF, 10k ohm
R486	24366103	CF, 10k ohm
R488	24366392	CF, 3900 ohm
R489	24366222	CF, 2200 ohm
R490	24366331	CF, 330 ohm
R491	24366682	CF, 6800 ohm
R492	24366272	CF, 2700 ohm
R493	24366152	CF, 1500 ohm
R494	24366102	CF, 1k ohm
R498	24366103	CF, 10k ohm
R502	24366101	CF, 100 ohm
R503	24366101	CF, 100 ohm
R504	24366682	CF, 6800 ohm
R505	24366272	CF, 2700 ohm
R506	24366822	CF, 8200 ohm
R507	24366101	CF, 100 ohm
R508	24366472	CF, 4700 ohm
R509	24366101	CF, 100 ohm
R510	24366101	CF, 100 ohm
R513	24366472	CF, 4700 ohm
R514	24366472	CF, 4700 ohm
R515	24366222	CF, 2200 ohm
R516	24366222	CF, 2200 ohm
R518	24366100	CF, 10 ohm
R520	24366100	CF, 10 ohm
R522	24366100	CF, 10 ohm
R524	24366103	CF, 10k ohm

Location No.	Part No.	Description
R526	24366472	CF, 4700 ohm
R562	24366273	CF, 27k ohm
R563	24366392	CF, 3900 ohm
R580	24366681	CF, 680 ohm
R581	24366103	CF, 10k ohm
R590	24366101	CF, 100 ohm
R591	24366472	CF, 4700 ohm
R592	24366472	CF, 4700 ohm
R593	24366102	CF, 1k ohm
R594	24366102	CF, 1k ohm
R595	24366472	CF, 4700 ohm
R596	24366102	CF, 1k ohm
R597	24366821	CF, 820 ohm
R607	24366103	CF, 10k ohm
R608	24366103	CF, 10k ohm
R609	24366103	CF, 10k ohm
R610	24366392	CF, 3900 ohm
R611	24366392	CF, 3900 ohm
R612	24366123	CF, 12k ohm
R613	24366123	CF, 12k ohm
R614	24366562	CF, 5600 ohm
R615	24366562	CF, 5600 ohm
R616	24366229	CF, 2.2 ohm
R617	24366229	CF, 2.2 ohm
R618	24366223	CF, 22k ohm
R619	24366223	CF, 22k ohm
R620	24366104	CF, 100k ohm
R621	24366223	CF, 22k ohm
R622	24366223	CF, 22k ohm
R623	24366223	CF, 22k ohm
R626	24366224	CF, 220k ohm
R688	24552391	OMF, 390 ohm, 1/2W
R690	24552391	OMF, 390 ohm, 1/2W
R702	24552221	OMF, 220 ohm, 1/2W
R709	24366563	CF, 56k ohm
R713	24366273	CF, 27k ohm
R715	24366333	CF, 33k ohm
R716	24366273	CF, 27k ohm
R717	24366333	CF, 33k ohm
R718	24366101	CF, 100 ohm
R719	24366100	CF, 10 ohm
R720	24366102	CF, 1k ohm
R722	24552471	OMF, 470 ohm, 1/2W
R723	24366101	CF, 100 ohm
R724	24366151	CF, 150 ohm
R725	24366821	CF, 820 ohm
R730	24552100	OMF, 10 ohm, 1/2W
R731	24552331	OMF, 330 ohm, 1/2W
R732	24366470	CF, 47 ohm
R733	24366683	CF, 68k ohm
R734	24366470	CF, 47 ohm
R735	24366683	CF, 68k ohm
R736	24553270	OMF, 27 ohm, 1W
R737	24366751	CF, 750 ohm
R738	24366102	CF, 1k ohm
R739	24366751	CF, 750 ohm
R740	24553270	OMF, 27 ohm, 1W
R741	24322399	MF, 3.9 ohm, 1W
R742	24321399	MF, 3.9 ohm, 1/2W
R743	24554221	OMF, 220 ohm, 2W
R744	24366122	CF, 1200 ohm
R745	24366122	CF, 1200 ohm
R761	24366273	CF, 27k ohm
R762	24366563	CF, 56k ohm

Location No.	Part No.	Description
R763	24552331	OMF, 330 ohm, 1/2W
R764	24366470	CF, 47 ohm
R765	24552100	OMF, 10 ohm, 1/2W
R766	24366470	CF, 47 ohm
R767	24552221	OMF, 220 ohm, 1/2W
R768	24366751	CF, 750 ohm
R769	24366122	CF, 1200 ohm
R770	24553270	OMF, 27 ohm, 1W
R771	24322399	MF, 3.9 ohm, 1W
R772	24366683	CF, 68k ohm
R773	24366683	CF, 68k ohm
R774	24366751	CF, 750 ohm
R775	24366122	CF, 1200 ohm
R776	24553270	OMF, 27 ohm, 1W
R777	24321399	MF, 3.9 ohm, 1/2W
R778	24366102	CF, 1k ohm
R779	24554221	OMF, 220 ohm, 2W
R781	24366273	CF, 27k ohm
R782	24366563	CF, 56k ohm
R783	24552221	OMF, 220 ohm, 1/2W
R784	24552100	OMF, 10 ohm, 1/2W
R785	24366470	CF, 47 ohm
R786	24366751	CF, 750 ohm
R787	24366122	CF, 1200 ohm
R788	24366683	CF, 68k ohm
R789	24366683	CF, 68k ohm
R790	24366751	CF, 750 ohm
R791	24366122	CF, 1200 ohm
R792	24366102	CF, 1k ohm
R793	24321399	MF, 3.9 ohm, 1/2W
R794	24553270	OMF, 27 ohm, 1W
R795	24322399	MF, 3.9 ohm, 1W
R796	24554221	OMF, 220 ohm, 2W
R797	24366470	CF, 47 ohm
R798	24552331	OMF, 330 ohm, 1/2W
R799	24553270	OMF, 27 ohm, 1W
R802	24366102	CF, 1k ohm
R803	24366683	CF, 68k ohm
R805	24366101	CF, 100 ohm
R806	24366101	CF, 100 ohm
R807	24367273	CF, 27k ohm, ±2%
R808	24552470	OMF, 47 ohm, 1/2W
R809	24321689	MF, 6.8 ohm, 1/2W
R810	24383680	OMF, 68 ohm, 2W
R811	24552121	OMF, 120 ohm, 1/2W
R812	24552390	OMF, 39 ohm, 1/2W
R814	24552821	OMF, 820 ohm, 1/2W
R816	24384104	OMF, 100k ohm, 3W
⚠R817	24009954	Metal-Glazed Resistor, 2.2M ohm, 1/2W
⚠R819	24009954	Metal-Glazed Resistor, 2.2M ohm, 1/2W
R820	24007061	Cement, 1.8 ohm, ±10%, 2W
R821	24045006	Cement, 4.7 ohm, 7W
R822	24366104	CF, 100k ohm
R823	24553820	OMF, 82 ohm, 1W
R832	24321828	MF, 0.82 ohm, 1/2W
R833	24321189	MF, 1.8 ohm, 1/2W
R834	24366330	CF, 33 ohm
R835	24366150	CF, 15 ohm
R836	24338109	MF, 1 ohm, 1W
R837	24321479	MF, 4.7 ohm, 1/2W
R838	24383333	OMF, 33k ohm, 2W
R839	24383473	OMF, 47k ohm, 2W

Location No.	Part No.	Description
R840	24382124	OMF, 120k ohm, 1W
R841	24366102	CF, 1k ohm
R842	24366332	CF, 3300 ohm
R843	24366332	CF, 3300 ohm
R844	24366473	CF, 47k ohm
R845	24366153	CF, 15k ohm
R846	24366331	CF, 330 ohm
R847	24366331	CF, 330 ohm
R854	24553121	OMF, 120 ohm, 1W
R855	24553271	OMF, 270 ohm, 1W
R856	24366152	CF, 1500 ohm
R857	24381682	OMF, 6800 ohm, 1/2W
R858	24366102	CF, 1k ohm
R859	24382333	OMF, 33k ohm, 1W
⚠R861	24005015	Metal-Glazed Resistor, 8.2M ohm, 1W
R862	24366104	CF, 100k ohm
R863	24366101	CF, 100 ohm
R864	24382333	OMF, 33k ohm, 1W
R865	24545109	FR, 1 ohm, 1/4W
R870	24552100	OMF, 10 ohm, 1/2W
R874	24366109	CF, 1 ohm
R881	24366472	CF, 4700 ohm
R882	24366222	CF, 2200 ohm
R883	24366472	CF, 4700 ohm
R884	24366222	CF, 2200 ohm
R885	24366472	CF, 4700 ohm
R886	24366222	CF, 2200 ohm
R901	24366101	CF, 100 ohm
R903	24942102	CC, 1k ohm, 1/2W
R905	24366470	CF, 47 ohm
R906	24366331	CF, 330 ohm
R908	24366680	CF, 68 ohm
R909	24366470	CF, 47 ohm
R911	24366101	CF, 100 ohm
R912	24019416	MF, 0.1 ohm, 1/2W
R913	24942102	CC, 1k ohm, 1/2W
R915	24366330	CF, 33 ohm
R916	24366331	CF, 330 ohm
R918	24366470	CF, 47 ohm
R919	24366470	CF, 47 ohm
R920	24366153	CF, 15k ohm
R921	24366101	CF, 100 ohm
R923	24942102	CC, 1k ohm, 1/2W
R925	24366470	CF, 47 ohm
R926	24366331	CF, 330 ohm
R927	24366100	CF, 10 ohm
R928	24366680	CF, 68 ohm
R929	24366470	CF, 47 ohm
R930	24366153	CF, 15k ohm
R931	24383153	OMF, 15k ohm, 2W
R932	24383153	OMF, 15k ohm, 2W
R933	24000945	FR, 1.8 ohm, 2W
R936	24383153	OMF, 15k ohm, 2W
R937	24383153	OMF, 15k ohm, 2W
R938	24366150	CF, 15 ohm
R941	24554153	OMF, 15k ohm, 2W
R942	24554153	OMF, 15k ohm, 2W
R943	24554153	OMF, 15k ohm, 2W
R944	24383153	OMF, 15k ohm, 2W
R945	24366150	CF, 15 ohm
R948	24366562	CF, 5600 ohm
R949	24366153	CF, 15k ohm
R951	24554153	OMF, 15k ohm, 2W
R952	24554153	OMF, 15k ohm, 2W
R953	24554153	OMF, 15k ohm, 2W
R954	24383153	OMF, 15k ohm, 2W
R956	24366101	CF, 100 ohm
R959	24366150	CF, 15 ohm
R961	24366102	CF, 1k ohm
R962	24366361	CF, 360 ohm
R964	24366332	CF, 3300 ohm
R965	24366471	CF, 470 ohm
R966	24366331	CF, 330 ohm
R967	24366681	CF, 680 ohm
R968	24366470	CF, 47 ohm
R969	24366683	CF, 68k ohm
R970	24366393	CF, 39k ohm
R971	24367821	CF, 820 ohm, ±2%
R972	24367471	CF, 470 ohm, ±2%
R973	24367681	CF, 680 ohm, ±2%
R974	24367681	CF, 680 ohm, ±2%
R975	24366561	CF, 560 ohm
R976	24367272	CF, 2700 ohm, ±2%
R977	24367512	CF, 5100 ohm, ±2%
R978	24367391	CF, 390 ohm, ±2%
R983	24366681	CF, 680 ohm
R984	24366821	CF, 820 ohm
R985	24366821	CF, 820 ohm
R986	24366821	CF, 820 ohm
R987	24366470	CF, 47 ohm
R991	24366822	CF, 8200 ohm
R992	24366153	CF, 15k ohm
R3051	24366223	CF, 22k ohm
R4222	24366472	CF, 4700 ohm
R4223	24366103	CF, 10k ohm
R4224	24366272	CF, 2700 ohm
R4225	24366102	CF, 1k ohm
R4403	24366101	CF, 100 ohm
R4404	24366101	CF, 100 ohm
R4406	24366752	CF, 7500 ohm
R4407	24366361	CF, 360 ohm
R4410	24366103	CF, 10k ohm
R4412	24366101	CF, 100 ohm
R4413	24366101	CF, 100 ohm
R4416	24366101	CF, 100 ohm
R4417	24366101	CF, 100 ohm
R4418	24366102	CF, 1k ohm
R4422	24366101	CF, 100 ohm
R4425	24381471	OMF, 470 ohm, 1/2W
R4426	24366152	CF, 1500 ohm
R4427	24366102	CF, 1k ohm
R4428	24366102	CF, 1k ohm
R4430	24366102	CF, 1k ohm
R4431	24366682	CF, 6800 ohm
R4432	24366182	CF, 1800 ohm
R4465	24366103	CF, 10k ohm
R4466	24366102	CF, 1k ohm
R7701	24366104	CF, 100k ohm
R7705	24366154	CF, 150k ohm
R7707	24366472	CF, 4700 ohm
R7708	24366472	CF, 4700 ohm
R7710	24366102	CF, 1k ohm
R7710	24384680	OMF, 68 ohm, 3W
R7711	24323129	MF, 1.2 ohm, 2W
R7712	24366472	CF, 4700 ohm
R7713	24366472	CF, 4700 ohm
R7715	24384680	OMF, 68 ohm, 3W

Location No.	Part No.	Description
R7716	24323129	MF, 1.2 ohm, 2W
R7717	24366472	CF, 4700 ohm
R7718	24366472	CF, 4700 ohm
R7720	24384680	OMF, 68 ohm, 3W
R7721	24323129	MF, 1.2 ohm, 2W
R7722	24366473	CF, 47k ohm
R7723	24366472	CF, 4700 ohm
R7725	24384680	OMF, 68 ohm, 3W
R7726	24323129	MF, 1.2 ohm, 2W
R7727	24366472	CF, 4700 ohm
R7728	24366472	CF, 4700 ohm
R7730	24384680	OMF, 68 ohm, 3W
R7731	24323129	MF, 1.2 ohm, 2W
R7732	24366473	CF, 47k ohm
R7733	24366472	CF, 4700 ohm
R7735	24384680	OMF, 68 ohm, 3W
R7736	24323129	MF, 1.2 ohm, 2W
R7741	24366471	CF, 470 ohm
R7742	24366222	CF, 2200 ohm
R7743	24366223	CF, 22k ohm
R7744	24366102	CF, 1k ohm
R7745	24366222	CF, 2200 ohm
R7746	24366223	CF, 22k ohm
R7747	24366222	CF, 2200 ohm
R7749	24366331	CF, 330 ohm
R7750	24323228	MF, 0.22 ohm, 2W
R7751	24366471	CF, 470 ohm
R7757	24366223	CF, 22k ohm
R7758	24366222	CF, 2200 ohm
R7760	24366103	CF, 10k ohm
R7761	24366333	CF, 33k ohm
R7762	24366103	CF, 10k ohm
R7763	24366471	CF, 470 ohm
R7764	24366331	CF, 330 ohm
R7765	24323338	MF, 0.33 ohm, 2W
R7766	24366223	CF, 22k ohm
R7767	24366153	CF, 15k ohm
R7768	24366100	CF, 10 ohm
R7771	24366102	CF, 1k ohm
R7772	24366102	CF, 1k ohm
R7775	24366273	CF, 27k ohm
R7776	24366472	CF, 4700 ohm
R7777	24366273	CF, 27k ohm
R7778	24366472	CF, 4700 ohm
R7779	24366102	CF, 1k ohm
R7780	24366102	CF, 1k ohm
R7781	24366333	CF, 33k ohm
R7793	24366224	CF, 220k ohm
R7797	24366472	CF, 4700 ohm
R7798	24366103	CF, 10k ohm
R7799	24366222	CF, 2200 ohm
R7880	24366221	CF, 220 ohm
R7881	24366472	CF, 4700 ohm
R7882	24366103	CF, 10k ohm
R7883	24366332	CF, 3300 ohm
R7884	24366103	CF, 10k ohm
R7885	24366103	CF, 10k ohm
R7886	24366154	CF, 150k ohm
R7887	24366103	CF, 10k ohm
R7888	24366153	CF, 15k ohm
R7889	24366153	CF, 15k ohm
R7900	24366471	CF, 470 ohm
R7901	24366471	CF, 470 ohm
R7902	24366332	CF, 3300 ohm

Location No.	Part No.	Description
R8610	24366103	CF, 10k ohm
R8611	24019090	MF, 300k ohm, 1/4W
R8612	24019090	MF, 300k ohm, 1/4W
R8613	24366102	CF, 1k ohm
R8614	24000633	MF, 10k ohm, 1/4W
R8615	24366471	CF, 470 ohm
R8617	24000633	MF, 10k ohm, 1/4W
R8618	24383473	OMF, 47k ohm, 2W
R8619	24366124	CF, 120k ohm
R8620	24366473	CF, 47k ohm
R8621	24366473	CF, 47k ohm
R8622	24366101	CF, 100 ohm
R8623	24366101	CF, 100 ohm
R8624	24366152	CF, 1500 ohm
R8627	24366333	CF, 33k ohm
R8628	24366221	CF, 220 ohm
R9501	24366470	CF, 47 ohm
R9502	24366470	CF, 47 ohm
R9503	24366681	CF, 680 ohm
R9504	24366683	CF, 68k ohm
R9505	24366393	CF, 39k ohm
R9506	24366681	CF, 680 ohm
R9601	24366470	CF, 47 ohm
R9602	24366392	CF, 3900 ohm
R9603	24366332	CF, 3300 ohm
R9604	24366272	CF, 2700 ohm
R9605	24366682	CF, 6800 ohm
R9606	24366272	CF, 2700 ohm
R9607	24366470	CF, 47 ohm
R9608	24366681	CF, 680 ohm
R9609	24366683	CF, 68k ohm
R9610	24366393	CF, 39k ohm
R9611	24366681	CF, 680 ohm
R9612	24366470	CF, 47 ohm
R9613	24366330	CF, 33 ohm
R9614	24366330	CF, 33 ohm
R9701	24366103	CF, 10k ohm
R9702	24366103	CF, 10k ohm
R9703	24366103	CF, 10k ohm
R9704	24366561	CF, 560 ohm
R9705	24366822	CF, 8200 ohm
R9706	24366471	CF, 470 ohm
R9707	24366271	CF, 270 ohm
R9708	24366331	CF, 330 ohm
R9709	24366271	CF, 270 ohm
R9710	24366222	CF, 2200 ohm
R9713	24366102	CF, 1k ohm
R9714	24366102	CF, 1k ohm
R9715	24366102	CF, 1k ohm
RA01	24366102	CF, 1k ohm
RA03	24366102	CF, 1k ohm
RA04	24366102	CF, 1k ohm
RA05	24366102	CF, 1k ohm
RA07	24366102	CF, 1k ohm
RA08	24366102	CF, 1k ohm
RA09	24366102	CF, 1k ohm
RA13	24366682	CF, 6800 ohm
RA14	24366103	CF, 10k ohm
RA16	24366102	CF, 1k ohm
RA17	24366102	CF, 1k ohm
RA18	24366102	CF, 1k ohm
RA22	24366102	CF, 1k ohm
RA24	24366101	CF, 100 ohm
RA25	24366101	CF, 100 ohm

Location No.	Part No.	Description
RA26	24366102	CF, 1k ohm
RA27	24366102	CF, 1k ohm
RA33	24366102	CF, 1k ohm
RA34	24366103	CF, 10k ohm
RA35	24366102	CF, 1k ohm
RA36	24366472	CF, 4700 ohm
RA37	24366101	CF, 100 ohm
RA38	24366101	CF, 100 ohm
RA39	24366102	CF, 1k ohm
RA40	24366331	CF, 330 ohm
RA41	24366331	CF, 330 ohm
RA61	24366103	CF, 10k ohm
RA62	24366103	CF, 10k ohm
RA64	24366103	CF, 10k ohm
RA65	24366332	CF, 3300 ohm
RA66	24366332	CF, 3300 ohm
RA67	24366273	CF, 27k ohm
RA68	24366273	CF, 27k ohm
RA69	24366223	CF, 22k ohm
RA70	24366333	CF, 33k ohm
RA71	24366683	CF, 68k ohm
RA72	24366223	CF, 22k ohm
RA73	24366103	CF, 10k ohm
RA74	24366222	CF, 2200 ohm
RA75	24366333	CF, 33k ohm
RA76	24366103	CF, 10k ohm
RA77	24366223	CF, 22k ohm
RA78	24366102	CF, 1k ohm
RA79	24366223	CF, 22k ohm
RA81	24366102	CF, 1k ohm
RA83	24366102	CF, 1k ohm
RA84	24366102	CF, 1k ohm
RA99	24366103	CF, 10k ohm
RA071	24366333	CF, 33k ohm
RA100	24366102	CF, 1k ohm
RA122	24366221	CF, 220 ohm
RA123	24366221	CF, 220 ohm
RA124	24366221	CF, 220 ohm
RA125	24366221	CF, 220 ohm
RA241	24366472	CF, 4700 ohm
RA251	24366472	CF, 4700 ohm
RA421	24366333	CF, 33k ohm
RA422	24366101	CF, 100 ohm
RB01	24366271	CF, 270 ohm
RB02	24366221	CF, 220 ohm
RB03	24366101	CF, 100 ohm
RB04	24366223	CF, 22k ohm
RB05	24366471	CF, 470 ohm
RB09	24366470	CF, 47 ohm
RB11	24366103	CF, 10k ohm
RB40	24366103	CF, 10k ohm
RB41	24366102	CF, 1k ohm
RB42	24366102	CF, 1k ohm
RB43	24366103	CF, 10k ohm
RB44	24366103	CF, 10k ohm
RB45	24366101	CF, 100 ohm
RB81	24366122	CF, 1200 ohm
RB82	24366123	CF, 12k ohm
RB83	24366123	CF, 12k ohm
RB84	24366562	CF, 5600 ohm
RB90	24366392	CF, 3900 ohm
RB91	24366473	CF, 47k ohm
RB92	24366271	CF, 270 ohm
RB93	24366271	CF, 270 ohm
RB94	24366222	CF, 2200 ohm
RB95	24366222	CF, 2200 ohm
RB98	24366102	CF, 1k ohm
RC27	24366102	CF, 1k ohm
RF01	24366332	CF, 3300 ohm (50D9UXE/50D9UXA)
RF03	24366682	CF, 6800 ohm (50D9UXE/50D9UXA)
RF04	24366223	CF, 22k ohm (50D9UXE/50D9UXA)
RF06	24366102	CF, 1k ohm (50D9UXE/50D9UXA)
RF08	24366100	CF, 10 ohm (50D9UXE/50D9UXA)
RF09	24366100	CF, 10 ohm (50D9UXE/50D9UXA)
RF10	24366100	CF, 10 ohm (50D9UXE/50D9UXA)
RF11	24366103	CF, 10k ohm (50D9UXE/50D9UXA)
RF12	24366101	CF, 100 ohm (50D9UXE/50D9UXA)
RF13	24366101	CF, 100 ohm (50D9UXE/50D9UXA)
RF14	24366101	CF, 100 ohm (50D9UXE/50D9UXA)
RF15	24366103	CF, 10k ohm (50D9UXE/50D9UXA)
RF16	24366471	CF, 470 ohm (50D9UXE/50D9UXA)
RF20	24366222	CF, 2200 ohm (50D9UXE/50D9UXA)
RF22	24366102	CF, 1k ohm (50D9UXE/50D9UXA)
RF26	24366102	CF, 1k ohm (50D9UXE/50D9UXA)
RF31	24366102	CF, 1k ohm (50D9UXE/50D9UXA)
RF32	24366821	CF, 820 ohm (50D9UXE/50D9UXA)
RF33	24366152	CF, 1500 ohm (50D9UXE/50D9UXA)
RF34	24366102	CF, 1k ohm (50D9UXE/50D9UXA)
RG01	24366333	CF, 33k ohm
RG02	24366333	CF, 33k ohm
RG03	24366101	CF, 100 ohm
RG04	24366101	CF, 100 ohm
RG09	24366472	CF, 4700 ohm
RG10	24366822	CF, 8200 ohm
RG11	24366472	CF, 4700 ohm
RG12	24366822	CF, 8200 ohm
RG15	24366102	CF, 1k ohm
RG16	24366223	CF, 22k ohm
RR10	24366101	CF, 100 ohm
RR63	24366332	CF, 3300 ohm
RR64	24366152	CF, 1500 ohm
RR65	24366102	CF, 1k ohm
RR66	24366101	CF, 100 ohm (50D9UXE/50D9UXA)
RR67	24366271	CF, 270 ohm (50D9UXE/50D9UXA)
RR68	24366332	CF, 3300 ohm
RR69	24366152	CF, 1500 ohm

Location No.	Part No.	Description
RR70	24366222	CF, 2200 ohm
RR71	24366332	CF, 3300 ohm (50D9UXE/50D9UXA)
RR72	24366332	CF, 3300 ohm (50D9UXE/50D9UXA)
RR73	24366102	CF, 1k ohm
RR74	24366102	CF, 1k ohm
RR75	24366102	CF, 1k ohm
RR76	24366103	CF, 10k ohm
RR77	24366392	CF, 3900 ohm
RR79	24366332	CF, 3300 ohm (50D9UXE/50D9UXA)
RR81	24366271	CF, 270 ohm (50D9UXE/50D9UXA)
RR82	24366100	CF, 10 ohm (50D9UXE/50D9UXA)
RR83	24366271	CF, 270 ohm (50D9UXE/50D9UXA)
RR84	24366101	CF, 100 ohm (50D9UXE/50D9UXA)
RR85	24366102	CF, 1k ohm
RR86	24366152	CF, 1500 ohm
RR87	24366332	CF, 3300 ohm
RR88	24366101	CF, 100 ohm
RS01	24366102	CF, 1k ohm
RS02	24366102	CF, 1k ohm
RS03	24366562	CF, 5600 ohm
RS04	24366562	CF, 5600 ohm
RS06	24366272	CF, 2700 ohm
RS07	24366562	CF, 5600 ohm
RS08	24366562	CF, 5600 ohm
RS09	24366562	CF, 5600 ohm
RS10	24366562	CF, 5600 ohm
RS11	24366562	CF, 5600 ohm
RS12	24366562	CF, 5600 ohm
RS13	24366101	CF, 100 ohm
RS14	24366101	CF, 100 ohm
RS15	24366104	CF, 100k ohm
RS16	24366104	CF, 100k ohm
RS17	24366223	CF, 22k ohm
RS18	24366223	CF, 22k ohm
RS19	24366102	CF, 1k ohm
RS20	24366102	CF, 1k ohm
RS21	24366222	CF, 2200 ohm
RS22	24366222	CF, 2200 ohm
RS23	24366101	CF, 100 ohm
RS24	24366101	CF, 100 ohm
RS31	24366103	CF, 10k ohm
RS32	24366104	CF, 100k ohm
RS35	24366104	CF, 100k ohm
RS36	24366223	CF, 22k ohm
RS37	24366102	CF, 1k ohm
RS38	24366222	CF, 2200 ohm
RS39	24366101	CF, 100 ohm
RS40	24366104	CF, 100k ohm
RS41	24366223	CF, 22k ohm
RS42	24366102	CF, 1k ohm
RS43	24366222	CF, 2200 ohm
RS44	24366101	CF, 100 ohm
RS664	24366223	CF, 22k ohm
RS666	24366223	CF, 22k ohm
RS667	24366102	CF, 1k ohm
RS668	24366683	CF, 68k ohm
RS669	24366104	CF, 100k ohm

Location No.	Part No.	Description
RS670	24552152	OMF, 1500 ohm, 1/2W
RS671	24366103	CF, 10k ohm
RS672	24366103	CF, 10k ohm
RS673	24366563	CF, 56k ohm
RS674	24366563	CF, 56k ohm
RS675	24366153	CF, 15k ohm
RS676	24366103	CF, 10k ohm
RS678	24366103	CF, 10k ohm
RS679	24366103	CF, 10k ohm
RS680	24366102	CF, 1k ohm
RS681	24366102	CF, 1k ohm
RV09	24366101	CF, 100 ohm
RV10	24366101	CF, 100 ohm
RV15	24366101	CF, 100 ohm
RV21	24366333	CF, 33k ohm
RV22	24366103	CF, 10k ohm
RV23	24552101	OMF, 100 ohm, 1/2W
RV24	24366471	CF, 470 ohm
RV25	24366101	CF, 100 ohm
RV26	24366152	CF, 1500 ohm
RV30	24366750	CF, 75 ohm
RV31	24366103	CF, 10k ohm
RV32	24366750	CF, 75 ohm
RV34	24366101	CF, 100 ohm
RV37	24366750	CF, 75 ohm
RV52	24366750	CF, 75 ohm
RV61	24366103	CF, 10k ohm
RV62	24366103	CF, 10k ohm
RV63	24366103	CF, 10k ohm
RV64	24366102	CF, 1k ohm
RV66	24366750	CF, 75 ohm
RV67	24366750	CF, 75 ohm
RV71	24366750	CF, 75 ohm
RV73	24366101	CF, 100 ohm
RV74	24366101	CF, 100 ohm
RV80	24366101	CF, 100 ohm
RV88	24366181	CF, 180 ohm
RV95	24366103	CF, 10k ohm
RV98	24366750	CF, 75 ohm
RY02	24366101	CF, 100 ohm
RY03	24366222	CF, 2200 ohm
RY04	24366103	CF, 10k ohm
RY126	24366683	CF, 68k ohm
RY127	24366104	CF, 100k ohm
RY604	24366102	CF, 1k ohm
RY605	24366104	CF, 100k ohm
RY606	24366393	CF, 39k ohm
RY607	24366153	CF, 15k ohm
RY608	24366152	CF, 1500 ohm
RY609	24366391	CF, 390 ohm
RY610	24382560	OMF, 56 ohm, 1W
RY613	24382820	OMF, 82 ohm, 1W
RY614	24366103	CF, 10k ohm
RY615	24366223	CF, 22k ohm
RY616	24366104	CF, 100k ohm
RY630	24366100	CF, 10 ohm
RY631	24366100	CF, 10 ohm
RZ01	24366102	CF, 1k ohm
RZ01	24366272	CF, 2700 ohm
RZ02	24366102	CF, 1k ohm
RZ02	24366272	CF, 2700 ohm
RZ03	24366102	CF, 1k ohm
RZ03	24366332	CF, 3300 ohm
RZ04	24366102	CF, 1k ohm

Location No.	Part No.	Description
RZ04	24366102	CF, 1k ohm
RZ05	24366102	CF, 1k ohm
RZ05	24366391	CF, 390 ohm
RZ06	24366102	CF, 1k ohm
RZ06	24366821	CF, 820 ohm
RZ08	24366391	CF, 390 ohm
RZ09	24366101	CF, 100 ohm
RZ13	24366102	CF, 1k ohm
RZ14	24366102	CF, 1k ohm
RZ15	24366102	CF, 1k ohm
RZ17	24366391	CF, 390 ohm
RZ18	24366391	CF, 390 ohm
RZ20	24366101	CF, 100 ohm
RZ29	24366331	CF, 330 ohm
RZ30	24366331	CF, 330 ohm

COILS & TRANSFORMERS

Location No.	Part No.	Description
L101	23248035	Coil, Choke, TLN3278D
L103	23238714	Coil, Peaking, TRF4100AJ
L104	23238714	Coil, Peaking, TRF4100AJ
L200	23103852	Coil, Filter, TEM2028AH
L301	23237975	Coil, Peaking, TRF4101AC
L302	23248073	Coil, Choke, TLN3299D
L303	23248073	Coil, Choke, TLN3299D
L304	23103859	Coil (Ferrite Bead), TEM2011
L305	23238710	Coil, Peaking, TRF4220AJ
L400	23237975	Coil, Peaking, TRF4101AC
L400	23289101	Coil, Peaking, TRF4101AF
L441	23233995	Coil, Linearity, TLN2215AG
L461	23248191	Coil, Choke, TLN3351AD
L462	23231313	Deflection Yoke, TDY707NS
L463	23231313	Deflection Yoke, TDY707NS
L464	23231313	Deflection Yoke, TDY707NS
L465	23103859	Coil (Ferrite Bead), TEM2011
L466	23103775	Coil (Ferrite Bead), TEM2014
L467	23103775	Coil (Ferrite Bead), TEM2014
L472	23102441	Magnet, MAG-1094
L473	23102441	Magnet, MAG-1094
L474	23102441	Magnet, MAG-1094
L481	23237975	Coil, Peaking, TRF4101AC
L501	23238714	Coil, Peaking, TRF4100AJ
L503	23289844	Coil, Peaking, TRF4470AT
L504	23289840	Coil, Peaking, TRF4100AT
L506	23289840	Coil, Peaking, TRF4100AT
L701	23237987	Coil, Peaking, TRF4100AC
L702	23261974	Coil, Choke, HC5-035
L704	23103859	Coil (Ferrite Bead), TEM2011
L705	23103859	Coil (Ferrite Bead), TEM2011
L764	23103859	Coil (Ferrite Bead), TEM2011
L765	23103859	Coil (Ferrite Bead), TEM2011
L766	23261974	Coil, Choke, HC5-035
L769	23237987	Coil, Peaking, TRF4100AC
L780	23237987	Coil, Peaking, TRF4100AC
L781	23103859	Coil (Ferrite Bead), TEM2011
L782	23103859	Coil (Ferrite Bead), TEM2011
L783	23261974	Coil, Choke, HC5-035
L804	23103859	Coil (Ferrite Bead), TEM2011
L830	23280025	Coil, Peaking, TRF4331AZ
L831	23280022	Coil, Peaking, TRF4101AZ
L833	23289842	Coil, Peaking, TRF4220AT
L835	23248087	Coil, Choke, TLN3312D
L856	23103859	Coil (Ferrite Bead), TEM2011
L857	23103859	Coil (Ferrite Bead), TEM2011
L858	23103859	Coil (Ferrite Bead), TEM2011

Location No.	Part No.	Description
L859	23103859	Coil (Ferrite Bead), TEM2011
L861	23103859	Coil (Ferrite Bead), TEM2011
L862	23248073	Coil, Choke, TLN3299D
L863	23103859	Coil (Ferrite Bead), TEM2011
L864	23103859	Coil (Ferrite Bead), TEM2011
L865	23103859	Coil (Ferrite Bead), TEM2011
L866	23248073	Coil, Choke, TLN3299D
L867	70211045	Coil, Choke, 0.02mH
L868	23103859	Coil (Ferrite Bead), TEM2011
L869	23103859	Coil (Ferrite Bead), TEM2011
L870	23248073	Coil, Choke, TLN3299D
L871	70211045	Coil, Choke, 0.02mH
L872	23248073	Coil, Choke, TLN3299D
L873	70211045	Coil, Choke, 0.02mH
L874	70211045	Coil, Choke, 0.02mH
L901	23237975	Coil, Peaking, TRF4101AC
L902	23238714	Coil, Peaking, TRF4100AJ
L903	23289680	Coil, Peaking, TRF4680AF
L911	23237987	Coil, Peaking, TRF4100AC
L912	23289680	Coil, Peaking, TRF4680AF
L913	23238714	Coil, Peaking, TRF4100AJ
L915	23289109	Coil, Peaking, TRF41R0AF
L922	23289680	Coil, Peaking, TRF4680AF
L923	23238714	Coil, Peaking, TRF4100AJ
L925	23289109	Coil, Peaking, TRF41R0AF
L961	23289840	Coil, Peaking, TRF4100AT
L962	23289109	Coil, Peaking, TRF41R0AF
L7701	23103859	Coil (Ferrite Bead), TEM2011
L7702	23103859	Coil (Ferrite Bead), TEM2011
L7703	23103859	Coil (Ferrite Bead), TEM2011
L7704	23103859	Coil (Ferrite Bead), TEM2011
L7705	23103859	Coil (Ferrite Bead), TEM2011
L7706	23103859	Coil (Ferrite Bead), TEM2011
L7710	23248195	Coil, Choke, TLN3441AT
L7711	23248195	Coil, Choke, TLN3441AT
L7712	23248195	Coil, Choke, TLN3441AT
L7713	23248195	Coil, Choke, TLN3441AT
LA01	23289100	Coil, Peaking, TRF4100AF
LB02	23262281	Coil, IF, TRF1197D
LC05	23238562	Coil, Peaking, TRF4109AJ
LC06	23103859	Coil (Ferrite Bead), TEM2011
LF01	23238506	Coil, Peaking, TRF4229AJ (50D9UXE/50D9UXA)
LF02	23238506	Coil, Peaking, TRF4229AJ (50D9UXE/50D9UXA)
LF03	23238506	Coil, Peaking, TRF4229AJ (50D9UXE/50D9UXA)
LF04	23238506	Coil, Peaking, TRF4229AJ (50D9UXE/50D9UXA)
LF06	23238562	Coil, Peaking, TRF4109AJ (50D9UXE/50D9UXA)
LF07	23238562	Coil, Peaking, TRF4109AJ (50D9UXE/50D9UXA)
LF08	23238714	Coil, Peaking, TRF4100AJ (50D9UXE/50D9UXA)
LF09	23238714	Coil, Peaking, TRF4100AJ (50D9UXE/50D9UXA)
LF10	23238562	Coil, Peaking, TRF4109AJ (50D9UXE/50D9UXA)
LF11	23289109	Coil, Peaking, TRF41R0AF (50D9UXE/50D9UXA)
LF12	23238714	Coil, Peaking, TRF4100AJ (50D9UXE/50D9UXA)

Location No.	Part No.	Description
LF13	23289100	Coil, Peaking, TRF4100AF (50D9UXE/50D9UXA)
LF16	23289121	Coil, Peaking, TRF4121AF (50D9UXE/50D9UXA)
LR21	23103898	Coil, Filter, TEM2030AH
LR22	23103898	Coil, Filter, TEM2030AH
LR23	23103898	Coil, Filter, TEM2030AH
LV02	23103852	Coil, Filter, TEM2028AH
LV06	23103852	Coil, Filter, TEM2028AH
LV47	23238705	Coil, Peaking, TRF4560AJ
LY101	23221803	Coil, Choke, TLN3040D
LZ01	23238710	Coil, Peaking, TRF4220AJ
LZ02	23238714	Coil, Peaking, TRF4100AJ
LZ02	23289100	Coil, Peaking, TRF4100AF
LZ03	23238714	Coil, Peaking, TRF4100AJ
LZ04	23238714	Coil, Peaking, TRF4100AJ
LZ05	23238714	Coil, Peaking, TRF4100AJ
LZ08	23238707	Coil, Peaking, TRF4390AJ
LZ09	70131060	Baze Filter, ZBF253D-00
LZ10	70131060	Baze Filter, ZBF253D-00
LZ11	70131060	Baze Filter, ZBF253D-00
T400	23224364	Transformer, Focus, TLN2168AH
T401	23224371	Transformer, Horiz, Drive, TLN1080AH
T402	23248248	Coil, Choke, TLN3500AH
⚠T461A	23192940	Anode Cap, TCCP5157
T461B	23960136	Adhesive, TSE3843-W
⚠T461Z	23236628	Transformer, Flyback, TFB3087ZD
⚠T801	23211713	Line Filter, TRF3197AQ
⚠T802	23211713	Line Filter, TRF3197AQ
⚠T803	23211698	Line Filter, TRF3218AK
T804	23211713	Line Filter, TRF3197AQ
T830	23211661	Line Filter, TRF3192
⚠T862	23217467	Transformer, Converter, TPW3450AS

SEMICONDUCTORS

Location No.	Part No.	Description
Q180	23114528	Transistor, 2SC1740S, Q
Q185	23114528	Transistor, 2SC1740S, Q
Q201	A6317440	Transistor, 2SC1815-Y
Q202	23114530	Transistor, 2SA933S-Q
Q203	23114530	Transistor, 2SA933S-Q
Q204	23114530	Transistor, 2SA933S-Q
Q206	23114528	Transistor, 2SC1740S, Q
Q209	23114530	Transistor, 2SA933S-Q
Q210	23114530	Transistor, 2SA933S-Q
Q211	23114528	Transistor, 2SC1740S, Q
Q212	23114528	Transistor, 2SC1740S, Q
Q237	23114528	Transistor, 2SC1740S, Q
Q261	23114530	Transistor, 2SA933S-Q
Q262	23114528	Transistor, 2SC1740S, Q
Q263	23114528	Transistor, 2SC1740S, Q
Q301	23319787	IC, LA7833S
Q301B	70391355	Screw, BITTB3X8 SZN
Q302	B0384625	IC, TA8859CP
Q304	B0347500	IC, TA75358P
Q305	23114530	Transistor, 2SA933S-Q
Q306	B0351501	IC, TA75902P(J)
Q307	B0347500	IC, TA75358P
Q308	23314548	Transistor, 2SC4256
Q370	23114528	Transistor, 2SC1740S, Q
Q371	23114530	Transistor, 2SA933S-Q
Q372	23114528	Transistor, 2SC1740S, Q
Q402	A6064650	Transistor, 2SK941
Q404	A6371775	Transistor, 2SC5144
Q404B	A8012650	Spacer, AC263
Q404D	72471082	Screw, BRDT2W3X10 SZN
Q405	23114530	Transistor, 2SA933S-Q
Q406	23114528	Transistor, 2SC1740S, Q
Q425	23114528	Transistor, 2SC1740S, Q
Q426	A6002060	Transistor, RN1206
Q427	A6002060	Transistor, RN1206
Q428	A6002060	Transistor, RN1206
Q460	23314916	Transistor, 2SK947-R
Q461	B0347500	IC, TA75358P
Q462	23114528	Transistor, 2SC1740S, Q
Q481	B0347235	IC, TA75339AP
Q501	B01A7048	IC, TB1274N
Q502	23114528	Transistor, 2SC1740S, Q
Q503	23114530	Transistor, 2SA933S-Q
Q504	23114530	Transistor, 2SA933S-Q
Q505	23114528	Transistor, 2SC1740S, Q
Q510	B0386208	IC, TA1276AN
Q520	23114528	Transistor, 2SC1740S, Q
Q580	23114528	Transistor, 2SC1740S, Q
Q601	B0376885	IC, TA8216H
Q601B	70391356	Screw, BITTB3X10 SZN
Q611	A6342200	Transistor, 2CS2878-A
Q612	A6342200	Transistor, 2CS2878-A
Q613	23114528	Transistor, 2SC1740S, Q
Q614	A6002040	Transistor, RN1204
Q615	23114530	Transistor, 2SA933S-Q
Q616	23114530	Transistor, 2SA933S-Q
Q706	23114528	Transistor, 2SC1740S, Q
Q707	A6734590	Transistor, 2SC752(G)TM-Y
Q709	23114528	Transistor, 2SC1740S, Q
Q710	23114530	Transistor, 2SA933S-Q
Q711	23314911	Transistor, 2SB1569A E
Q711B	70391355	Screw, BITTB3X8 SZN
Q712	23314914	Transistor, 2SD2400A E
Q712B	70391355	Screw, BITTB3X8 SZN
Q719	23114528	Transistor, 2SC1740S, Q
Q720	23114528	Transistor, 2SC1740S, Q
Q751	23905094	IC, STR392-110
Q752	23905094	IC, STR392-110
Q755	23904521	IC, AN7805
Q755B	70391355	Screw, BITTB3X8 SZN
Q757	23114528	Transistor, 2SC1740S, Q
Q758	23114528	Transistor, 2SC1740S, Q
Q759	23114530	Transistor, 2SA933S-Q
Q760	23114530	Transistor, 2SA933S-Q
Q761	23114530	Transistor, 2SA933S-Q
Q761	23314911	Transistor, 2SB1569A E
Q761B	70391355	Screw, BITTB3X8 SZN
Q762	23114528	Transistor, 2SC1740S, Q
Q764	B0485895	IC, TC74HC14AP
Q765	23114528	Transistor, 2SC1740S, Q
Q766	23114528	Transistor, 2SC1740S, Q
Q767	B0470188	IC, TC4066BP(N)
Q769	23114528	Transistor, 2SC1740S, Q
Q771	23314914	Transistor, 2SD2400A E
Q771B	70391355	Screw, BITTB3X8 SZN
Q772	23114530	Transistor, 2SA933S-Q
Q773	23114528	Transistor, 2SC1740S, Q
Q779	23114528	Transistor, 2SC1740S, Q
Q781	23114528	Transistor, 2SC1740S, Q

Location No.	Part No.	Description
Q782	23114530	Transistor, 2SA933S-Q
Q782	23318840	IC, AN79M05F
Q782B	70391355	Screw, BITTB3X8 SZN
Q783	23114528	Transistor, 2SC1740S, Q
Q784	23314911	Transistor, 2SB1569A E
Q784B	70391355	Screw, BITTB3X8 SZN
Q785	23314914	Transistor, 2SD2400A E
Q785B	70391355	Screw, BITTB3X8 SZN
Q796	23114528	Transistor, 2SC1740S, Q
Q797	B0349260	IC, TA75358P
Q798	B0470188	IC, TC4066BP(N)
Q801	23135015	IC, STR-Z4369
Q811	A6002060	Transistor, RN1206
Q812	23114528	Transistor, 2SC1740S, Q
Q821	A6002060	Transistor, RN1206
Q824	23114528	Transistor, 2SC1740S, Q
Q825	23905977	IC, PQ09RD11
Q825B	70391355	Screw, BITTB3X8 SZN
Q826	23905977	IC, PQ09RD11
Q826B	70391355	Screw, BITTB3X8 SZN
Q827	23905976	IC, PQ05RD11
Q827B	70391355	Screw, BITTB3X8 SZN
Q828	23905976	IC, PQ05RD11
Q828B	70391355	Screw, BITTB3X8 SZN
Q829	23905976	IC, PQ05RD11
Q829B	70391355	Screw, BITTB3X8 SZN
Q830	23135004	IC, STR83145A
Q830B	70391355	Screw, BITTB3X8 SZN
Q831	23114528	Transistor, 2SC1740S, Q
Q832	23114530	Transistor, 2SA933S-Q
Q833	23000140	IC, MM1437AS
⚠Q862	A8643112	Photo Coupler, TLP621(GRL-L
Q901	A6372621	Transistor, 2SC5360
Q902	23114528	Transistor, 2SC1740S, Q
Q911	A6372621	Transistor, 2SC5360
Q912	23114528	Transistor, 2SC1740S, Q
Q913	23114530	Transistor, 2SA933S-Q
Q914	23114528	Transistor, 2SC1740S, Q
Q915	23114528	Transistor, 2SC1740S, Q
Q916	23114530	Transistor, 2SA933S-Q
Q917	23114530	Transistor, 2SA933S-Q
Q918	23114528	Transistor, 2SC1740S, Q
Q919	23114528	Transistor, 2SC1740S, Q
Q920	23114528	Transistor, 2SC1740S, Q
Q921	A6372621	Transistor, 2SC5360
Q922	23114528	Transistor, 2SC1740S, Q
Q961	23114528	Transistor, 2SC1740S, Q
Q962	23114530	Transistor, 2SA933S-Q
Q963	23114528	Transistor, 2SC1740S, Q
Q964	23114530	Transistor, 2SA933S-Q
Q965	23114528	Transistor, 2SC1740S, Q
Q966	23114530	Transistor, 2SA933S-Q
Q968	23114528	Transistor, 2SC1740S, Q
Q971	23114530	Transistor, 2SA933S-Q
Q972	23114530	Transistor, 2SA933S-Q
Q973	23114530	Transistor, 2SA933S-Q
Q974	23114528	Transistor, 2SC1740S, Q
Q975	A6734590	Transistor, 2SC752(G)TM-Y
Q4420	B01A0067	IC, TA1300AN
Q4430	23114530	Transistor, 2SA933S-Q
Q4465	23114530	Transistor, 2SA933S-Q
Q8610	B0349261	IC, TA75393P(FA2
⚠Q8611	A8643112	Photo Coupler, TLP621(GRL-L
Q8612	23114528	Transistor, 2SC1740S, Q
Q8630	23114528	Transistor, 2SC1740S, Q
Q8631	23114528	Transistor, 2SC1740S, Q
QA01	23000565	IC, 750011-142S
QA02	23906642	IC, AT24C64-10PC
QA05	A6734590	Transistor, 2SC752(G)TM-Y
QA10	23114530	Transistor, 2SA933S-Q
QB02	23114530	Transistor, 2SA933S-Q
QB03	A6002050	Transistor, RN1205
QB81	A6342200	Transistor, 2CS2878-A
QB82	A6342200	Transistor, 2CS2878-A
QB83	23114530	Transistor, 2SA933S-Q
QB92	23114528	Transistor, 2SC1740S, Q
QB93	23114530	Transistor, 2SA933S-Q
QB94	23114530	Transistor, 2SA933S-Q
QB95	23114530	Transistor, 2SA933S-Q
QB96	23114530	Transistor, 2SA933S-Q
QF01	23906822	IC, SDA5273-2S C (50D9UXE/50D9UXA)
QF03	23114528	Transistor, 2SC1740S, Q (50D9UXE/50D9UXA)
QF04	A6734590	Transistor, 2SC752(G)TM-Y (50D9UXE/50D9UXA)
QF07	23114528	Transistor, 2SC1740S, Q (50D9UXE/50D9UXA)
QF08	23114530	Transistor, 2SA933S-Q (50D9UXE/50D9UXA)
QG01	B0385643	IC, TA1216AN
QR35	23114528	Transistor, 2SC1740S, Q
QR36	23114528	Transistor, 2SC1740S, Q
QR37	23114530	Transistor, 2SA933S-Q (50D9UXE/50D9UXA)
QR38	23114528	Transistor, 2SC1740S, Q
QR39	23114530	Transistor, 2SA933S-Q (50D9UXE/50D9UXA)
QR40	23114528	Transistor, 2SC1740S, Q
QR41	23114530	Transistor, 2SA933S-Q (50D9UXE/50D9UXA)
QR70	A6734590	Transistor, 2SC752(G)TM-Y
QS01	A6342200	Transistor, 2CS2878-A
QS02	A6342200	Transistor, 2CS2878-A
QS03	23114528	Transistor, 2SC1740S, Q
QS04	23114528	Transistor, 2SC1740S, Q
QS07	A6010040	Transistor, RN2004
QS08	A6342200	Transistor, 2CS2878-A
QS09	23114528	Transistor, 2SC1740S, Q
QS10	A6342200	Transistor, 2CS2878-A
QS11	23114528	Transistor, 2SC1740S, Q
QS671	23906596	IC, BA4558
QS672	A6342200	Transistor, 2CS2878-A
QS673	A6010040	Transistor, RN2004
QV01	23000369	IC, MM1495XD
QV07	A6002030	Transistor, RN1203
QV08	23114528	Transistor, 2SC1740S, Q
QV09	23114528	Transistor, 2SC1740S, Q
QV11	A6002030	Transistor, RN1203
QV13	A6317440	Transistor, 2SC1815-Y
QV51	23114528	Transistor, 2SC1740S, Q
QY10	A6534060	Transistor, 2SA1015-GR
QY601	23318255	IC, µPC1406HA
QY602	23114528	Transistor, 2SC1740S, Q
QY604	A6342200	Transistor, 2CS2878-A
QY605	23114529	Transistor, 2SA933S-R
QY606	A6010040	Transistor, RN2004
QZ01	23114530	Transistor, 2SA933S-Q

Location No.	Part No.	Description
QZ01	B0410895	IC, TC90A49P
QZ02	23114528	Transistor, 2SC1740S, Q
QZ02	23114530	Transistor, 2SA933S-Q
QZ04	23114530	Transistor, 2SA933S-Q
QZ05	23114530	Transistor, 2SA933S-Q
QZ07	23114530	Transistor, 2SA933S-Q
QZ08	23114528	Transistor, 2SC1740S, Q
D101	23316756	Diode, Zener, MTZJ33D
D201	23118859	Diode, 1SS133
D301	23118520	Diode, Zener, RD8.2ESA B2
D302	23118094	Diode, EU2A, LF-F10
D303	23118499	Diode, Zener, RD18ESA B2
D304	23316794	Diode, SC570ALFE2
D305	23118822	Diode, ERB12-02
D306	23118822	Diode, ERB12-02
D312	23118859	Diode, 1SS133
D338	23118859	Diode, 1SS133
D370	23118859	Diode, 1SS133
D371	23118859	Diode, 1SS133
D401	23118094	Diode, EU2A, LF-F10
D402	23118094	Diode, EU2A, LF-F10
D404	23316254	Diode, ERC06-15L
D405	23316720	Diode, Zener, MTZJ12C
D406	A7978850	Diode, S5295G
D411	23118499	Diode, Zener, RD18ESA B2
D413	23118707	Diode, RP 1H, LF-C1
D414	23118094	Diode, EU2A, LF-F10
D415	23118094	Diode, EU2A, LF-F10
D416	23118707	Diode, RP 1H, LF-C1
D422	23118518	Diode, Zener, RD9.1ESA B1
D424	23118859	Diode, 1SS133
D448	23118094	Diode, EU2A, LF-F10
D450	23118859	Diode, 1SS133
D461	23224366	Diode, FMQ-3GU
D462	23118499	Diode, Zener, RD18ESA B2
D471	23118094	Diode, EU2A, LF-F10
D473	23115774	Diode, Zener, RD6.2E(4)
D481	23118859	Diode, 1SS133
D490	23118530	Diode, Zener, RD5.6ESA B1
D498	23118859	Diode, 1SS133
D501	23118859	Diode, 1SS133
D580	23118528	Diode, Zener, RD5.6ESA B3
D610	23118859	Diode, 1SS133
D611	23118859	Diode, 1SS133
D612	23118859	Diode, 1SS133
D613	23118859	Diode, 1SS133
D614	23118859	Diode, 1SS133
D615	23118859	Diode, 1SS133
D616	23118859	Diode, 1SS133
D617	23118859	Diode, 1SS133
D618	23118859	Diode, 1SS133
D704	23118859	Diode, 1SS133
D705	23118859	Diode, 1SS133
D715	23118859	Diode, 1SS133
D721	23118859	Diode, 1SS133
D761	23118859	Diode, 1SS133
D762	23118859	Diode, 1SS133
D763	23118859	Diode, 1SS133
D764	23118859	Diode, 1SS133
D781	23118859	Diode, 1SS133
D782	23118859	Diode, 1SS133
D783	23118859	Diode, 1SS133
D784	23118859	Diode, 1SS133
D803	23316787	Diode, D15XB60H, F5

Location No.	Part No.	Description
D803B	70391355	Screw, BITTB3X8 SZN
D804	23118537	Diode, Zener, RD6.2ESA B3
D805	23118518	Diode, Zener, RD9.1ESA B1
D806	23118615	Diode, Zener, RD27ESA B3
D809	23118602	Diode, Zener, RD36ESA B4
D810	23118615	Diode, Zener, RD27ESA B3
D811	23118057	Diode, AG01A
D812	23118516	Diode, Zener, RD9.1ESA B3
D813	23118060	Diode, AL01Z
D814	23118529	Diode, Zener, RD5.6ESA B2
D816	24000656	Varistor, TNR15G471K
D819	23118859	Diode, 1SS133
D820	23118515	Diode, Zener, RD11ESA B1
D821	23118537	Diode, Zener, RD6.2ESA B3
D822	23118859	Diode, 1SS133
D825	23115532	Diode, ERB12-01E
D826	23115532	Diode, ERB12-01E
D827	23115532	Diode, ERB12-01E
D828	23115532	Diode, ERB12-01E
D829	23115532	Diode, ERB12-01E
D831	23118621	Diode, Zener, RD10ESA B3
D832	23118621	Diode, Zener, RD10ESA B3
D833	23118532	Diode, Zener, RD5.1ESA B2
D834	23118529	Diode, Zener, RD5.6ESA B2
D835	23357207	Diode, LN1WBA60
D836	A7568200	Diode, 1S1832
D837	23118525	Diode, Zener, RD6.8ESA B3
D838	23118536	Diode, Zener, RD4.7ESA B1
D839	70612402	Diode, SF5J42
D854	23357214	Diode, D4SBS4
D855	23357215	Diode, D4SBS6
D855B	70391355	Screw, BITTB3X8 SZN
D856	23357216	Diode, D4SBL20U
D858	23118859	Diode, 1SS133
D859	23316768	Diode, FMB-26L
D859B	70391355	Screw, BITTB3X8 SZN
D860	23357217	Diode, D4SBL40
D860B	70391355	Screw, BITTB3X8 SZN
D862	23118859	Diode, 1SS133
D863	23316553	Diode, 1SS145
D86B	70391355	Screw, BITTB3X8 SZN
D891	23118859	Diode, 1SS133
D901	23118859	Diode, 1SS133
D902	23118859	Diode, 1SS133
D911	23118859	Diode, 1SS133
D912	23118859	Diode, 1SS133
D921	23118859	Diode, 1SS133
D922	23118859	Diode, 1SS133
D924	23118859	Diode, 1SS133
D925	23118859	Diode, 1SS133
D931	23118859	Diode, 1SS133
D932	23118859	Diode, 1SS133
D933	23118859	Diode, 1SS133
D934	23118859	Diode, 1SS133
D936	A7568250	Diode, 1S1834
D941	23118859	Diode, 1SS133
D942	23118859	Diode, 1SS133
D943	23118859	Diode, 1SS133
D945	A7568250	Diode, 1S1834
D946	23118859	Diode, 1SS133
D963	23118859	Diode, 1SS133
D964	23118859	Diode, 1SS133
D965	23118859	Diode, 1SS133
D966	23118859	Diode, 1SS133

Location No.	Part No.	Description
D967	A7568250	Diode, 1S1834
D4223	23115532	Diode, ERB12-01E
D7701	23118859	Diode, 1SS133
D7702	23118859	Diode, 1SS133
D7705	23118859	Diode, 1SS133
D7706	23118859	Diode, 1SS133
D7707	23118859	Diode, 1SS133
D7708	23118859	Diode, 1SS133
D7709	23118538	Diode, Zener, RD6.2ESA B2
D7714	23118859	Diode, 1SS133
D7715	23118859	Diode, 1SS133
D7716	23118859	Diode, 1SS133
D7717	23118538	Diode, Zener, RD6.2ESA B2
D7718	23118538	Diode, Zener, RD6.2ESA B2
D7719	23118538	Diode, Zener, RD6.2ESA B2
D7720	23118538	Diode, Zener, RD6.2ESA B2
D7721	23118538	Diode, Zener, RD6.2ESA B2
D7722	23118538	Diode, Zener, RD6.2ESA B2
D7730	23118538	Diode, Zener, RD6.2ESA B2
D7736	23118538	Diode, Zener, RD6.2ESA B2
D7738	23118859	Diode, 1SS133
D7739	23118859	Diode, 1SS133
D7740	23118859	Diode, 1SS133
D7741	23118859	Diode, 1SS133
D7742	23118859	Diode, 1SS133
D7743	23118859	Diode, 1SS133
D7745	23118859	Diode, 1SS133
D7746	23118859	Diode, 1SS133
D7747	23118859	Diode, 1SS133
D7748	23118859	Diode, 1SS133
D7749	23118859	Diode, 1SS133
D7760	23118859	Diode, 1SS133
D7806	23118859	Diode, 1SS133
D7810	23118859	Diode, 1SS133
D8610	23115774	Diode, Zener, RD6.2E(4)
D8611	23118610	Diode, Zener, RD30ESA B4
D8612	23118613	Diode, Zener, RD30ESA B1
D8613	23118532	Diode, Zener, RD5.1ESA B2
D8614	23118537	Diode, Zener, RD6.2ESA B3
D8615	23118859	Diode, 1SS133
D8616	23118517	Diode, Zener, RD9.1ESA B2
D8617	23118532	Diode, Zener, RD5.1ESA B2
DA421	23118529	Diode, Zener, RD5.6ESA B2
DB01	23358541	Diode (LED), 4343VRT
DB02	23358503	Diode (LED), SCL003MC3FX
DB03	23358522	Diode (LED), SIR-56SB3F
DF01	23316654	Diode, Zener, MTZJ3.0A (50D9UXE/50D9UXA)
DR61	23118859	Diode, 1SS133 (50D9UXE/50D9UXA)
DR62	23118859	Diode, 1SS133 (50D9UXE/50D9UXA)
DR63	23118859	Diode, 1SS133 (50D9UXE/50D9UXA)
DS671	23118495	Diode, Zener, RD22ESA B3
DV10	23118859	Diode, 1SS133
DY601	23118859	Diode, 1SS133
DY602	23118859	Diode, 1SS133

MISCELLANEOUS

Location No.	Part No.	Description
B107	23711305	Screw, PP3X.5X5BNI
B224	23035412	Screw, BTB 4X12 SZN
B225	23035412	Screw, BTB 4X12 SZN
B230	23037312	Screw, BTBW 3X12 SZN
B233	23035412	Screw, BTB 4X12 SZN
B234	23030937	Screw, BTBW 3X12 SBN
B237	23035412	Screw, BTB 4X12 SZN
B239	23035412	Screw, BTB 4X12 SZN
B330	23037312	Screw, BTBW 3X12 SZN
B332	23037312	Screw, BTBW 3X12 SZN
BB14A	23903022	Socket, 8P
BB14B	23903022	Socket, 8P
BB14C	23368627	Plug, 8P
BB15A	23903022	Socket, 8P
BB15B	23903022	Socket, 8P
BB15C	23368627	Plug, 8P
BB16A	23903022	Socket, 8P
BB16B	23903022	Socket, 8P
BB16C	23368627	Plug, 8P
E935	23710134	Screw, SCREW PP4
E943	23710134	Screw, SCREW PP4
E956	23710134	Screw, SCREW PP4
E966	23960136	Adhesive, TSE3843-W
E976	23960136	Adhesive, TSE3843-W
E986	23960136	Adhesive, TSE3843-W
⚠F801	23144458	Fuse, 5.0A, 250V
F801A	23165433	Holder, Fuse
F801B	23165433	Holder, Fuse
G101	23238506	Coil, Peaking, TRF4229AJ
G102	23238506	Coil, Peaking, TRF4229AJ
G106	23289109	Coil, Peaking, TRF41R0AF
G431	23237975	Coil, Peaking, TRF4101AC
G510	23289479	Coil, Peaking, TRF44R7AF
GA69	24366470	CF, 47 ohm
GY102	23238506	Coil, Peaking, TRF4229AJ
GY103	23238506	Coil, Peaking, TRF4229AJ
GY104	23237995	Coil, Peaking, TRF4229AC
HY02	23148327	Module, MVCM13, PIP
KB01	23904946	Remote Sensor, RPM-676CBR-S
P101	23164558	Plug, 8P
P513	23903040	Socket, 56P
P661	23363607	Jack, Headphone
P708	23902655	Socket, B-B, 15P
P709	23902655	Socket, B-B, 15P
P720	23164786	Plug, 6P
⚠P801	23372023	Power Cord (50D9UXE/50D9UXH)
⚠P801	23372026	Power Cord (50D9UXA)
PB12	23164560	Plug, 6P
PF01A	23367724	Plug, B-B,15P (50D9UXE/50D9UXA)
PF01B	23902655	Socket, B-B, 15P
PU01A	23368634	Plug, 25P
PU01B	23903025	Socket, 25P
PU02A	23368634	Plug, 25P
PU02B	23903025	Socket, 25P
PU11	23902655	Socket, B-B, 15P
PU12	23902781	Socket, B-B, 12P
PV01	23365837	Jack, 1S6P
PV02	23365966	Jack, 1S6P
PV04	23164563	Plug, 3P
PV06	23365972	Jack, 6P
PV62	23164558	Plug, 8P
PY630	23363607	Jack, Headphone
S601	23145411	Switch, Slide, 2C2P
⚠S801	23145434	Switch, Power, 2C2P
SA01	23145226	Switch, Push, 1C1P

Location No.	Part No.	Description
SA02	23145226	Switch, Push, 1C1P
SA03	23145226	Switch, Push, 1C1P
SA04	23145226	Switch, Push, 1C1P
SA06	23145226	Switch, Push, 1C1P
SA07	23145226	Switch, Push, 1C1P
⚠SR80	23146574	Relay, DLS5D1-O(M) 0.15W
⚠SR81	23146574	Relay, DLS5D1-O(M) 0.15W
⚠V901A	23902019	Socket, CRT, 9P
⚠V902A	23902019	Socket, CRT, 9P
⚠V903A	23902019	Socket, CRT, 9P
W661	23151232	Speaker, SPK-1235, 160X160mm, 8 ohm
W662	23151232	Speaker, SPK-1235, 160X160mm, 8 ohm
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
X501	23153438	Crystal, 16.200MHz
X4401	23153721	Ceramic Resonator, 503kHz, TCR1023
XA01	23153497	Crystal, 16.0 MHz
XF01	23153421	Crystal, 20.48MHz (50D9UXE/50D9UXA)
⚠Z410	23110842	Focus Pack, TPA6031
⚠Z410A	23505177	Focus Cable
⚠Z450	24082996	CR Block, TPA5007BH
⚠Z450A	23504953	Anode Cable
Z801	23148734	Module, HIC1026A, PROTECTOR, HIC1026
Z803	23148755	Module, SLI-MI-06, DC/DC CONVERTER
Z830	23144609	Protector, PRF5000PRT, DC60V, 5.0A
Z831	23144603	Protector, PRF10005PRT, DC60V, 1.0A
Z853	23144608	Protector, PRF40005PRT, DC60V, 4.0A
Z854	23144609	Protector, PRF5000PRT, DC60V, 5.0A
Z856	23144605	Protector, PRF20005PRT, DC60V, 2.0A
Z857	23144607	Protector, PRF31505PRT, DC60V, 3.15A
Z858	23144610	Protector, PRF63005PRT, DC60V, 6.3A
Z859	23144610	Protector, PRF63005PRT, DC60V, 6.3A
Z860	23144608	Protector, PRF40005PRT, DC60V, 4.0A
Z901	23103839	Ferrite Core, TFE1012 (50D9UXE/50D9UXA)
Z902	23103839	Ferrite Core, TFE1012 (50D9UXE/50D9UXA)
ZC01	23148757	Module, CM50DP30H, CONVER50
ZT01	23153736	Ceramic Resonator, TCR1025
ZY01	23148722	Module, MKMP32A, MULTI PICTURE MKM
ZY02	23148747	Module, MYCJ32, 3D-YCS COMB
ZY03	23148761	Module, TMA201A, SCAN CONVERTER, DFS

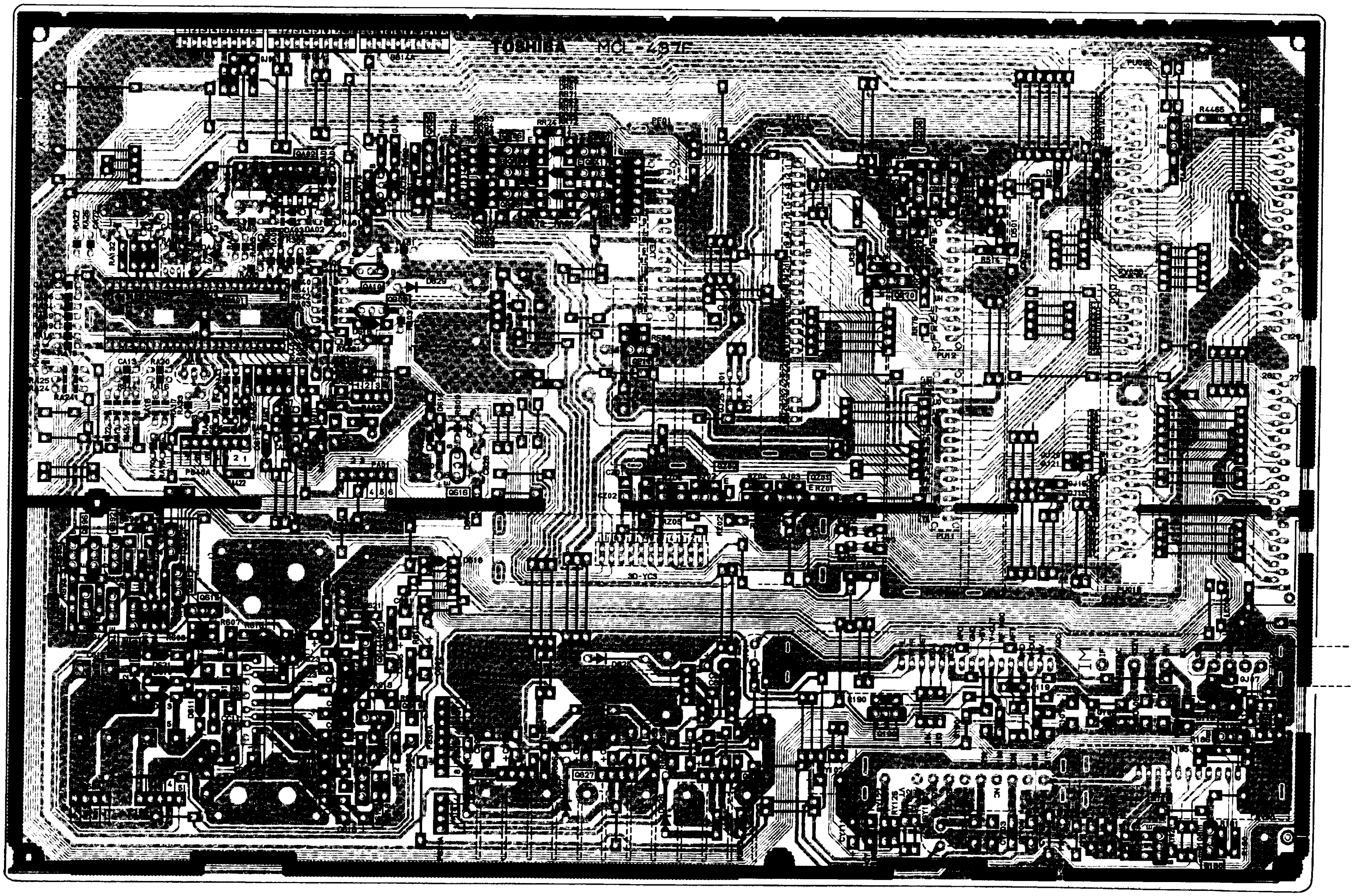
Location No.	Part No.	Description
PC BOARD ASSEMBLIES		
* M021Z		RMT IN Board, PB9092-1
* M022Z		FRT IN Board, PB9092-2
* M023Z		FRT CON Board, PB9092-3
* M031Z		CRT-D/R Board, PB9752-1
* M032Z		CRT-D/G Board, PB9752-2
* M033Z		CRT-D/B Board, PB9752-3
* M034Z		SVM-G Board, PB9752-4
* M035Z		SVM-R Board, PB9752-5
* M036Z		SVM-B Board, PB9752-6
* U401		DEF Board, PB9731
* U701		CONV. OUT Board, PB9749
* U801		Power Board, PB9748
* U901		Signal Board, PB9738 (50D9UXE/50D9UXA)
* U901		Signal Board, PB9740 (50D9UXH)
* U902		VCD Board, PB9747
* UM01		TEXT Board, PB9745 (50D9UXE/50D9UXA)
* UV01		BACK AV Board, PB9746
PICTURE TUBE		
⚠V901R	23005845	Protector Coupling 50R
⚠V902G	23005846	Protector Coupling 50G
⚠V903B	23005847	Protector Coupling 50B
TUNER		
H001	23321393	Tuner, EC954LW
HY01	23321384	Tuner, ECA32LX2
ACCESSORIES		
K902	23306246	Remote Hand Unit, CT-9933 (50D9UXE/50D9UXA)
K902	23306245	Remote Hand Unit, CT-9932 (50D9UXH)
AT03	23588255	Battery Cover
Y101E	23565061	Owner's Manual, English, 50D9UXE/50D9UXH/50D9UXA
Y101C	23565062	Owner's Manual, Hong Kong, 50D9UXH
Y109	23943846	Cover, Poly
CABINET PARTS		
A101	23411259	Wood Cabinet
A107	23549746	Rear Board Cover
A109	23564457	Label (50D9UXE)
A109	23564675	Label (50D9UXH)
A109	23564608	Label (50D9UXA)
A126	23445281	Button, Catch Male
A127	23445281	Button, Catch Male
A151	23525992	Case
A152	23935939	Packing, Bottom
A169	23730162	Screw, Wood
A171	23805157	Handle
A175	23436661	Caster
A202	23450181	Front Panel
A203	23527093	Speaker Grille R
A204	23527095	Speaker Grille L
A213	23427871	Door
A224	23445308	Knob, Control

Location No.	Part No.	Description
A225	23445309	Knob, Power
A322	23445282	Button, Catch Female
⚠A401	23549658	Back Board Cover
A505	72471068	Screw, BIDT2 4X12BZ
A506	23035412	Screw, BTB4X12SZN
A512	23035412	Screw, BTB4X12SZN
A519	72471068	Screw, BIDT2 4X12BZ
A520	23037310	Screw, BTBW 3X10SZN
A701	23064320	Case (50D9UXE)
A701	23064370	Case (50D9UXH)
A701	23064342	Case (50D9UXA)
A702	23935938	Packing, Top
A703	23845450	Joint
K501	23430817	Lenti Sheet, SCREEN50KKHL
K502	23430799	Fresnel Sheet, SCREEN50KKPF
K601	23430509	Mirror, MIRROR50H

Location No.	Part No.	Description

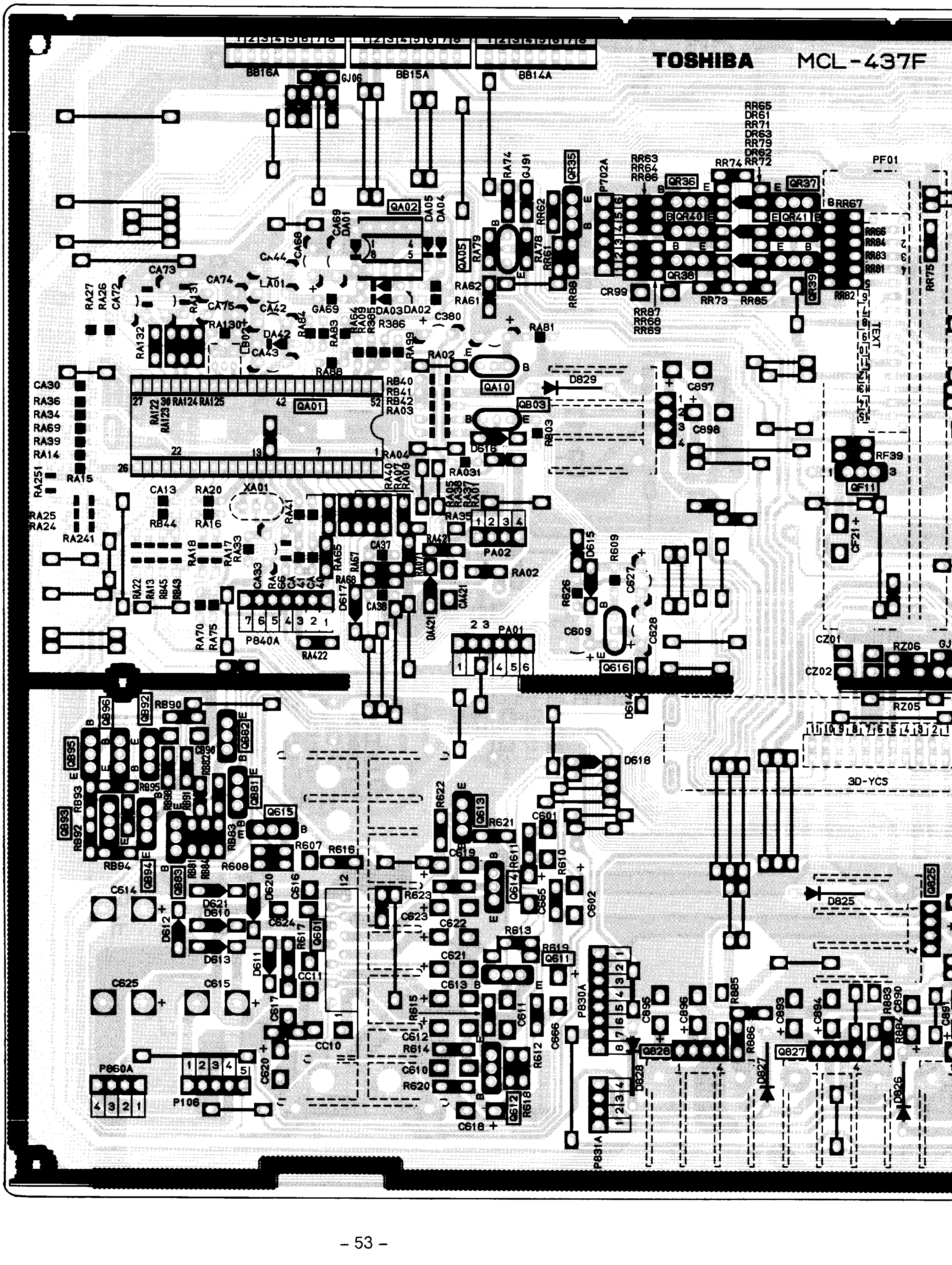
SIGNAL BOARD PB9738

BOTTOM (FOIL) SIDE


TOSHIBA MCL-487F
R4465
PF01
RA132
CA13
Q618
Q627
3D-YC3
RZ01
RZ02
RZ05
R607
D619
NC

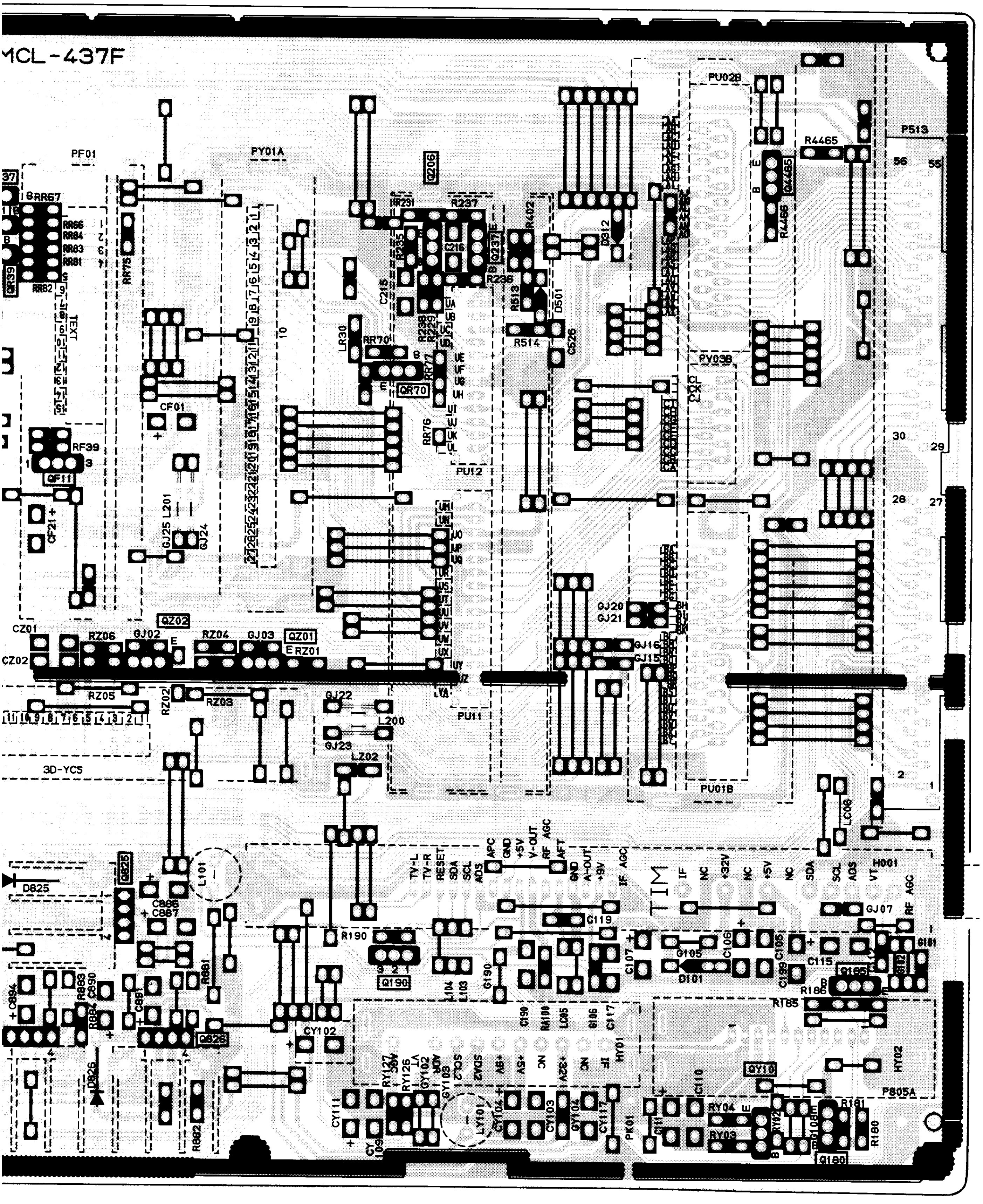
SIGNAL BOARD

BOTTOM (FOIL) SI


TOSHIBA
MCL-437F
BB16A
BB15A
BB14A
GJ06
QA02
QA01
QA05
QA10
QB03
XA01
LA01
LB01
PA01
PA02
P840A
P702A
QR35
QR36
QR37
QR38
QR39
QR40
QR41
RR65
DR61
RR71
DR63
RR79
DR62
RR72
RR63
RR64
RR86
RR74
RR67
RR66
RR84
RR83
RR81
RR82
RR73
RR85
RR87
RR88
RR89
CR99
PF01
TEXT
RF39
QF11
CF21
CZ01
CZ02
RZ06
RZ05
3D-YCS
D829
C897
C898
D615
R609
C627
R626
C609
C628
Q616
D614
D618
RB90
QB96
QB92
QB95
RB93
QB93
RB92
RB94
QB94
RB95
QB82
QB81
Q615
R607
R616
R608
D620
C616
C614
D621
D610
D612
D613
C624
C625
C615
D611
R617
Q601
CC11
CC10
C617
C620
P860A
P106
R622
Q613
R621
C601
C619
R611
R610
Q614
C665
C602
R623
C623
C622
R613
C621
R619
Q611
C613
R615
C612
R614
C610
R620
C618
Q612
R618
R612
C611
C666
P830A
P831A
D828
Q828
C895
C896
R885
R886
Q827
C893
C894
R883
C890
D827
D826
D825
Q825
RA27
RA26
CA72
CA73
RA131
RA132
CA74
CA75
CA44
CA68
CA69
DA01
DA05
DA04
RA74
GJ91
RA79
RA62
RA61
RA78
RA61
RR62
RR68
CA42
GA69
RA130
DA42
CA43
RA84
RA83
RA64
RA09
R385
DA03
DA02
R386
C380
RA99
RA81
RA58
RA02
CA30
RA36
RA34
RA69
RA39
RA14
RA251
RA15
RA25
RA24
RA241
RA122
RA123
RA124
RA125
RB40
RB41
RB42
RA03
RA04
RA031
D616
RB03
CA13
RA20
RB44
RA16
RA41
RA18
RA17
RA33
RA22
RA13
RB45
RB43
CA33
RA70
RA75
RA422
RA65
CA37
RA67
RA68
D617
CA38
RA421
CA421
DA421
RA35
RA02
RA40
RA07
RA08

AL BOARD PB9738

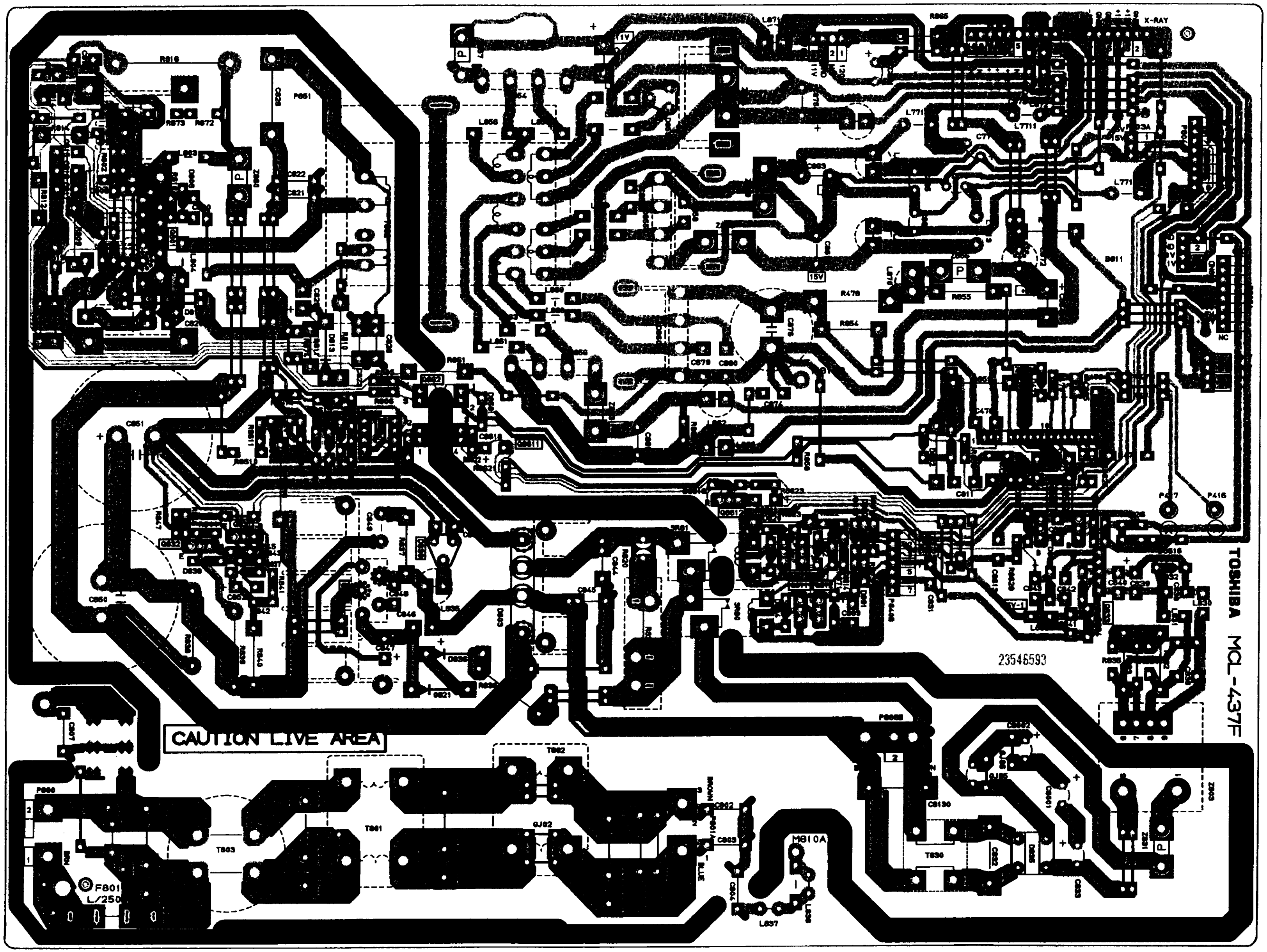
BOTTOM (FOIL) SIDE



MCL-437F
PF01
PY01A
PU02B
P513
R4465
Q4465
R4466
RR67
RR66
RR84
RR83
RR81
RR82
QR39
RR75
TEXT
Q206
IR231
R237
R235
C216
Q237
R402
R236
D312
C215
R513
D501
R514
C526
LR30
RR70
RR77
QR70
RR76
PU12
PV03B
CF01
RF39
QF11
CF21
L201
GJ25
GJ24
GJ20
GJ21
GJ16
GJ15
CZ01
CZ02
QZ02
RZ06
GJ02
RZ04
GJ03
QZ01
RZ01
RZ05
RZ02
RZ03
GJ22
L200
GJ23
PU11
LZ02
PU01B
3D-YCS
LC06
H001
D825
Q825
L101
C886
C887
R881
R883
C890
R884
C894
C891
Q826
D826
R882
R190
Q190
L104
L103
G190
C119
C107
G105
C106
C105
D101
C199
C115
Q185
R186
R185
G181
G112
CY102
C190
RA100
LC05
G106
C117
HY01
HY02
QY10
C110
P805A
CY111
CY109
RY127
RY126
GY102
GY103
LY101
CY104
CY103
GY104
CY117
PK01
G111
RY04
RY03
RY02
R181
R180
Q180
G108
TV-L
TV-R
RESET
SDA
SCL
ADS
APC
GND
+5V
V-OUT
RF AGC
AFT
A-OUT
+9V
IF AGC
TIM
IF
NC
+32V
VT
GJ07
RF
SCL2
SDA2
ADR
56
55
30
29
28
27
2
1

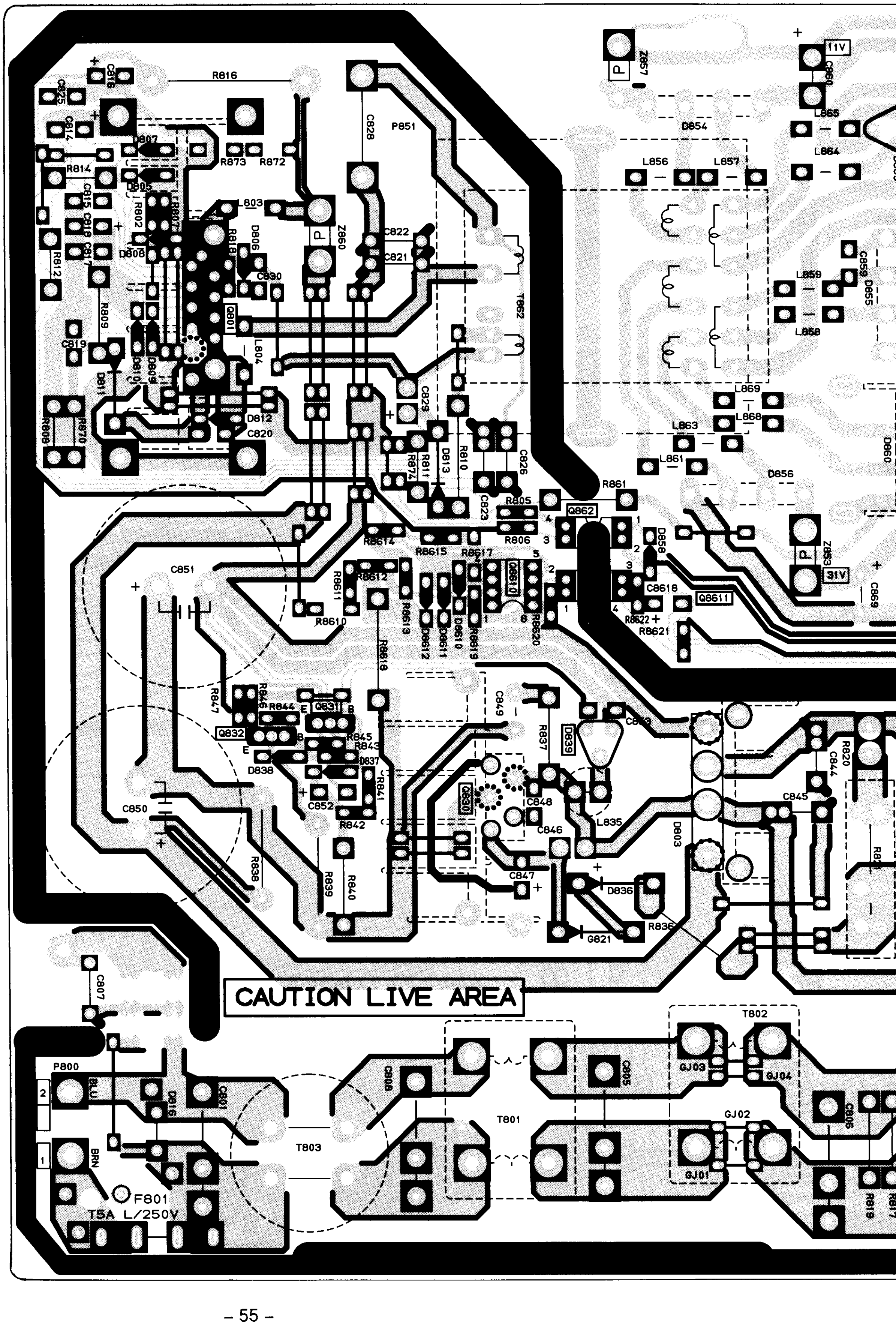
POWER BOARD PB9748

BOTTOM (FOIL) SIDE


TOSHIBA MCL-437F
23546593
CAUTION LIVE AREA
X-RAY
F801
L/250
MB10A
BROWN
BLUE
T801
T802
T803
T830
P416
P417
NC
R819
R873
R872
C851
C856
R478
R854
R855
15V
11V
L7711
L771
B811
P600
L837
L836

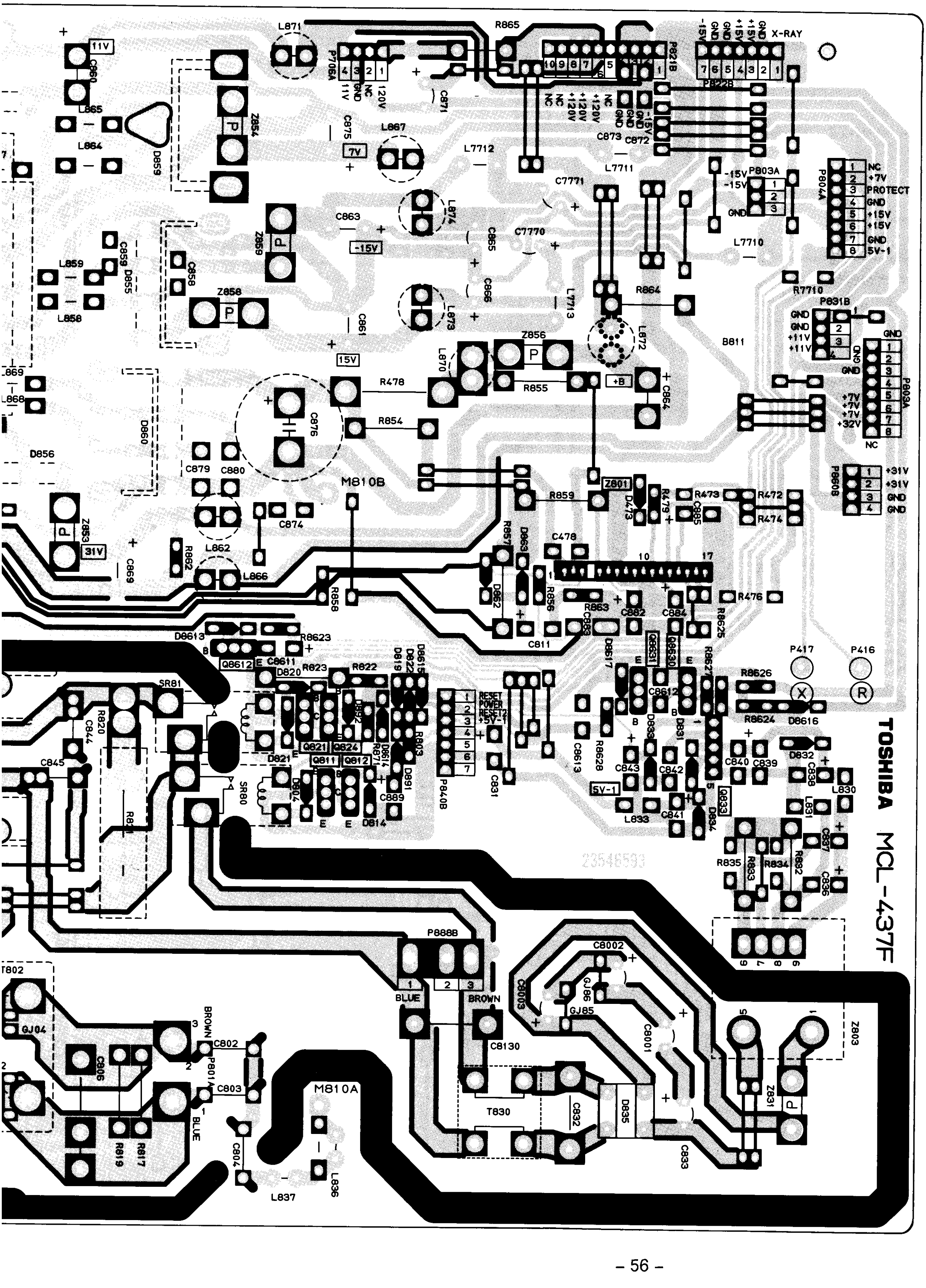
POWER BOARD

BOTTOM (FOIL)


R816
C816
C825
C814
D807
R873
R872
C828
P851
R814
C815
C818
C817
D805
R802
R807
L803
R812
D808
R818
D806
Z860
P
C822
C821
C830
R809
Q801
T862
C819
D811
D810
D809
L804
R808
R870
D812
C820
C829
D813
R874
R811
R810
C826
C823
R805
R861
Q862
R806
R8614
R8615
R8617
C851
R8611
R8612
R8613
D8612
D8611
D8610
R8619
Q8610
R8620
R8610
R8618
D858
C8618
Q8611
R8622
R8621
Z853
31V
C869
R847
R846
R844
Q831
Q832
E
B
R845
R843
D837
D838
R841
C852
R842
C850
R838
R839
R840
C849
R837
D839
C843
Q830
C848
C846
L835
D803
C847
D836
G821
R836
C844
R820
C845
C807
CAUTION LIVE AREA
P800
BLU
BRN
2
1
D816
C801
F801
T5A L/250V
T803
C809
T801
C805
T802
GJ03
GJ04
GJ02
GJ01
C806
R819
R817
Z857
11V
C860
L865
L864
D854
L856
L857
C859
D855
L859
L858
L869
L868
L863
L861
D856
D860

VER BOARD PB9748

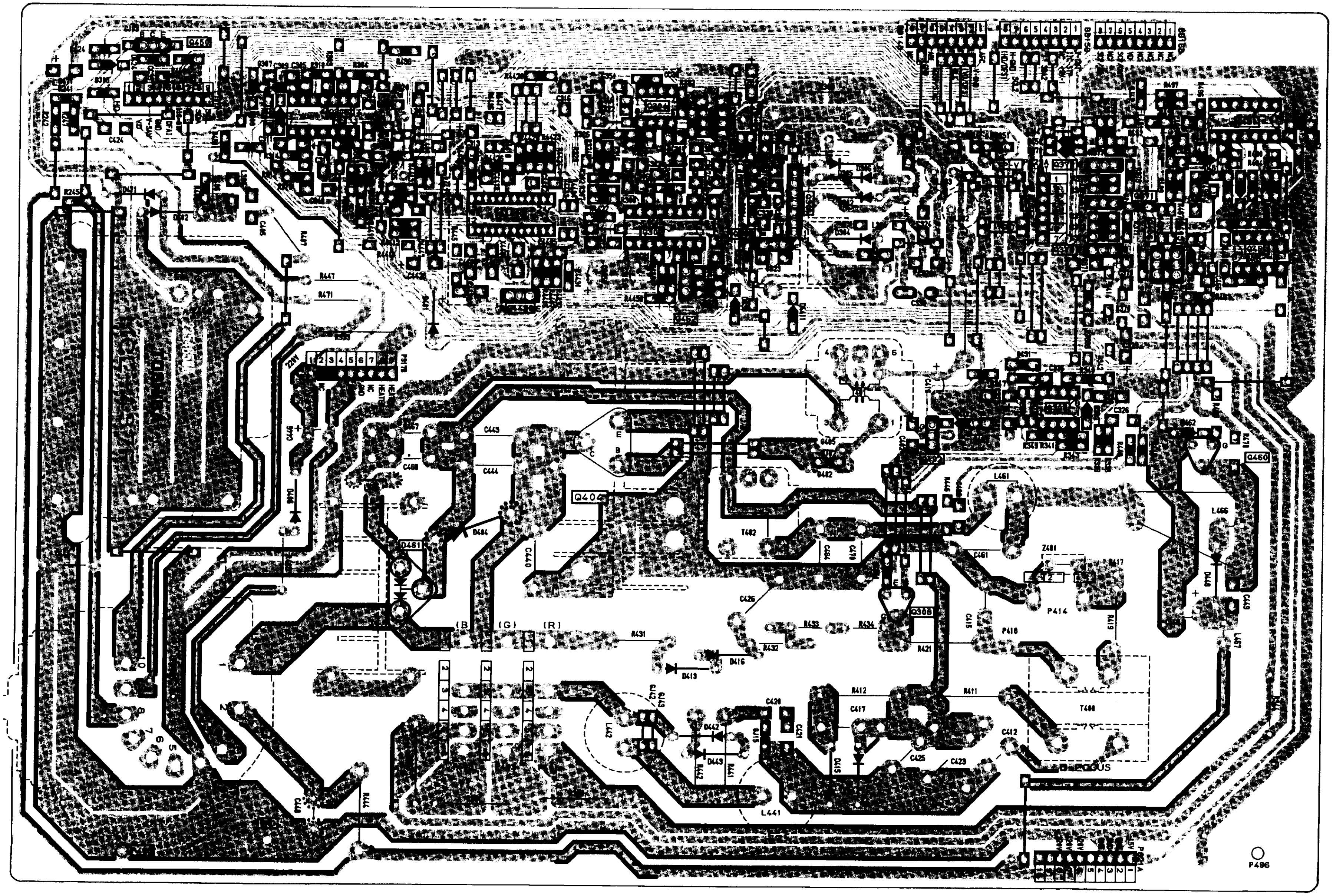
BOTTOM (FOIL) SIDE



TOSHIBA
MCL-437F
X-RAY
-15V GND GND +15V +15V GND
P821B
P822B
P706A
11V GND NC 120V
NC NC +120V +120V NC GND GND -15V GND
P803A
-15V -15V GND
P804A
NC +7V PROTECT GND +15V +15V GND 5V-1
P631B
GND GND +11V +11V
P803A
GND GND GND +7V +7V +7V +32V NC
P860B
+31V +31V GND GND
P840B
RESET POWER RESET2 +5V-1
P417
P416
P888B
BLUE BROWN
P801A
BROWN BLUE
T830
T802
M810A
M810B
SR81
SR80
Z854
Z859
Z858
Z856
Z853
Z803
Z831
Z801
11V
7V
-15V
15V
31V
+B
5V-1
L871
L865
L864
L867
L874
L873
L870
L872
L859
L858
L869
L868
L862
L866
L7712
L7711
L7713
L7710
L833
L830
L831
L836
L837
R865
R864
R478
R855
R854
R859
R857
R856
R858
R862
R863
R473
R472
R474
R479
R476
R8625
R8626
R8627
R8624
R8628
R8623
R823
R822
R820
R871
R803
R835
R833
R834
R832
R817
R819
R7710
B811
C860
C875
C871
C873
C872
C7771
C7770
C863
C865
C866
C861
C859
C858
C876
C879
C880
C874
C869
C864
C865
C478
C882
C884
C811
C883
C8612
C8611
C844
C845
C843
C842
C841
C840
C839
C838
C837
C836
C8613
C831
C889
C8002
C8003
C8001
C8130
C802
C803
C804
C806
C832
C833
D859
D855
D856
D860
D473
D863
D862
D8617
D8613
D820
D821
D815
D822
D819
D892
D814
D891
D804
D833
D831
D834
D832
D8616
D835
Q8612
Q821
Q824
Q811
Q812
Q8631
Q8630
Q833
GJ04
GJ85
GJ86
10
17

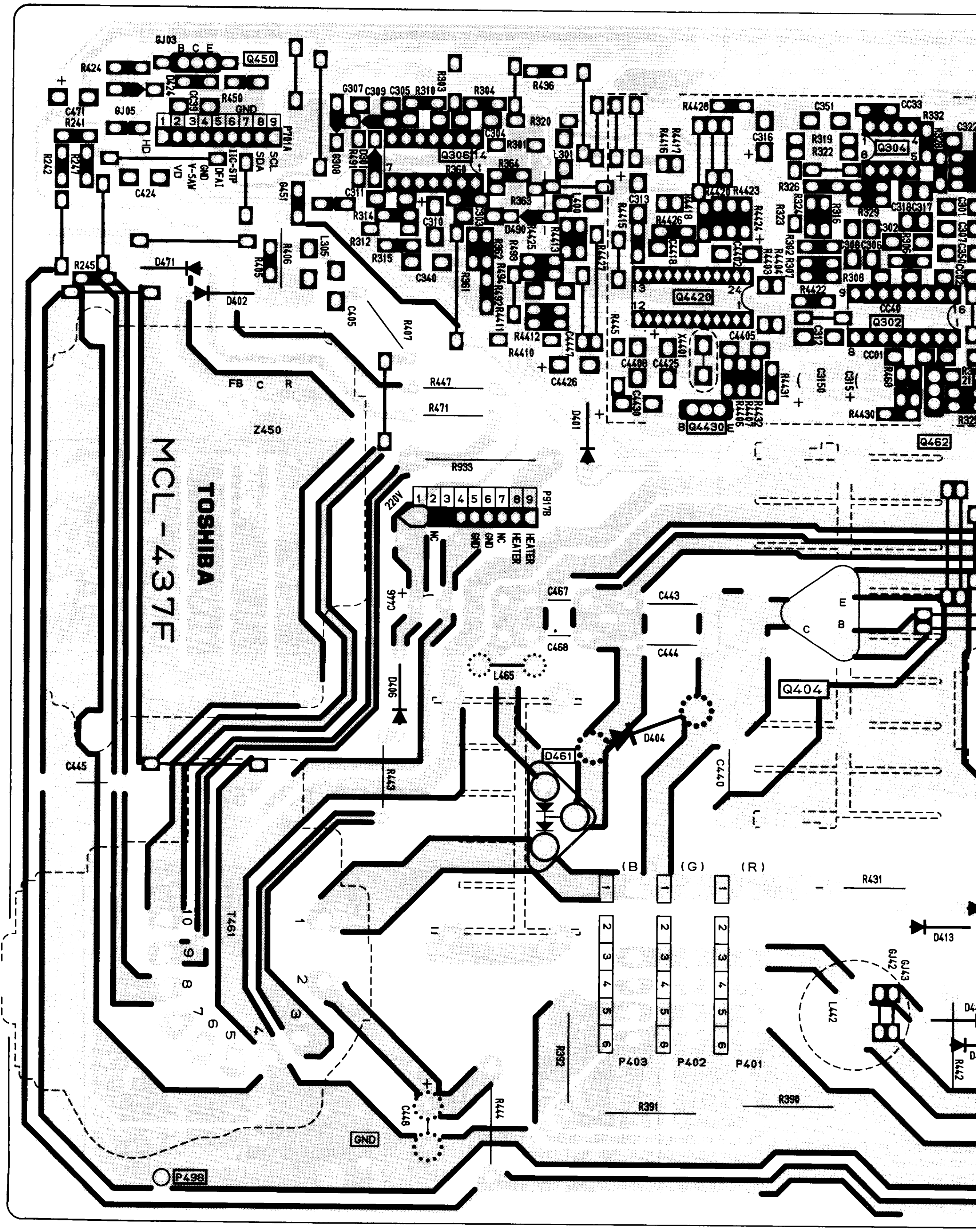
DEF BOARD PB9731

BOTTOM (FOIL) SIDE


Q450
C424
R245
D451
D452
C485
R487
R447
R471
D481
P917B
1 2 3 4 5 6 7
HEATER
NC
GND
C446
D486
C468
C443
C444
D461
D464
C440
Q404
E
B
T482
C466
C470
C485
D482
C416
C442
L461
R446
C461
Z401
R417
P414
R419
D448
C449
L466
L467
Q460
R478
Q462
C326
Q308
R434
R433
R432
R431
R421
C426
C415
P418
D416
D413
(B)
(G)
(R)
2
3
4
R412
R411
C417
C420
C421
C412
C425
C423
D415
D442
D443
R442
R441
L442
L441
T498
FOCUS
R444
C448
1
2
5
6
7
8
10
P801A
P496
BB14B
BB15B
BB15A
AFC
H-GND
(HD/DFS)

DEF BOARD P

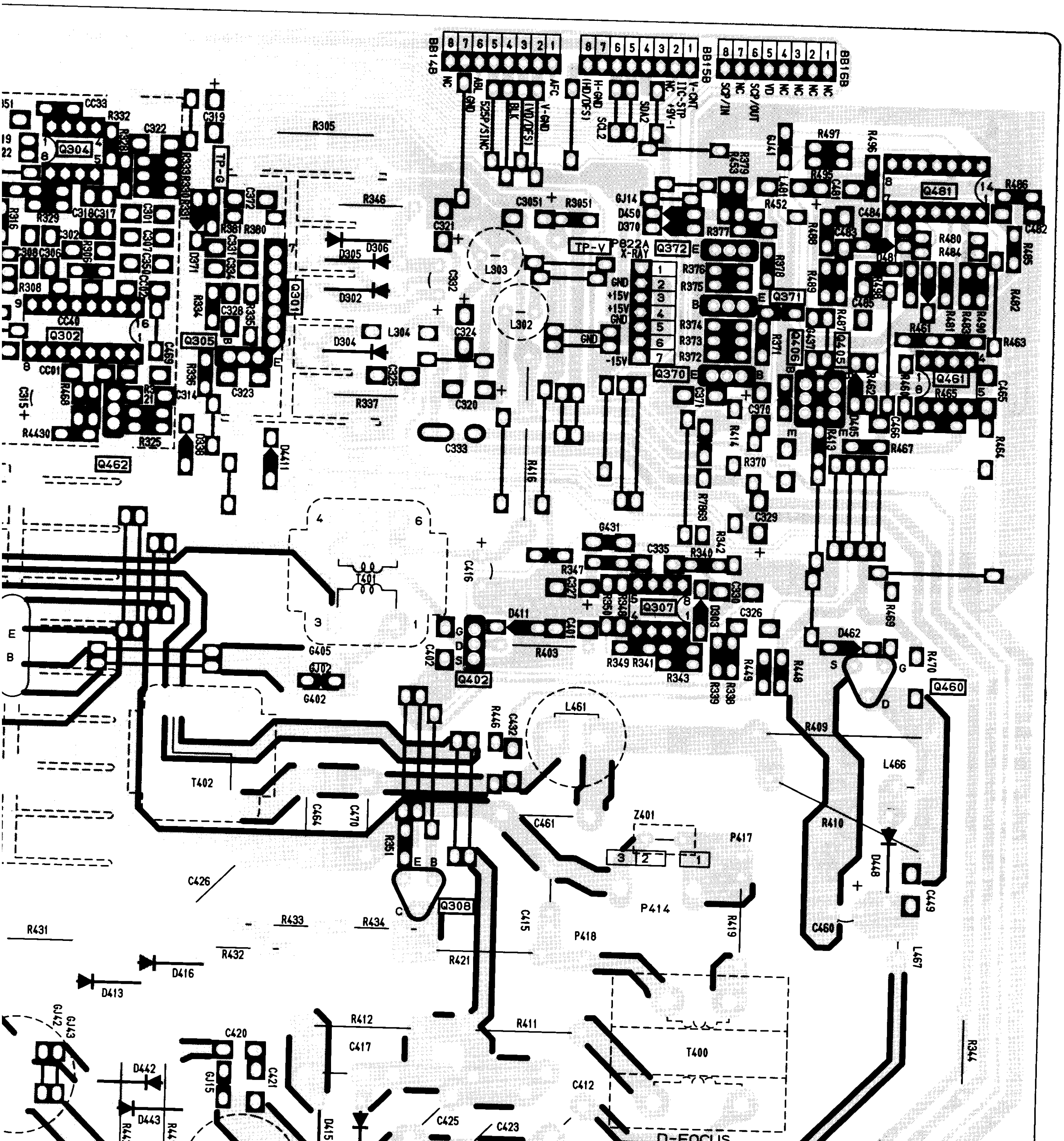
BOTTOM (FOIL) S



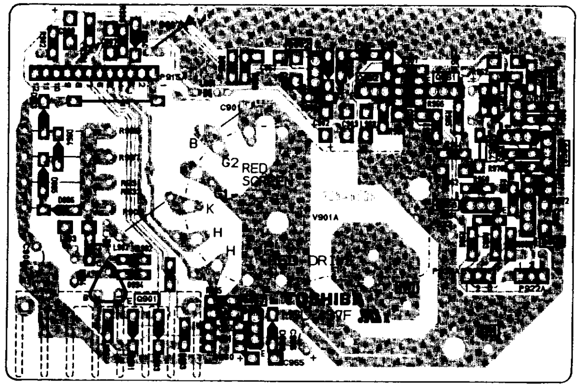
GJ03
B C E
Q450
R424
D424
C439
R459
GND
C471
R241
GJ05
1 2 3 4 5 6 7 8 9
P781A
R242
R247
HD
GND
V-SAW
VD
DFA1
IIC-STP
SDA
SCL
C424
G451
R245
D471
D402
R406
R405
L305
C405
R407
G307
C309
C305
R310
R303
R304
R436
R320
G308
R491
D301
C311
R314
R312
R315
C310
C340
C304
R301
Q306
R360
R364
L301
R363
D490
C303
R361
R362
R494
R492
R4411
R4425
R4413
L400
R4412
R4410
C4447
C4426
R447
R471
FB C R
Z450
TOSHIBA
MCL-437F
R933
D401
R4428
R4417
R4416
C316
R4415
C313
R4418
R4426
C4418
R4420
R4423
R4424
C4402
R4404
R4403
Q4420
R445
X4401
C4408
C4425
C4430
C4405
R4432
R4407
R4406
Q4430
R4431
C3150
C315
C351
CC33
R332
R319
R322
Q304
R326
R324
R316
R323
R329
C318
C317
R302
R307
C308
C306
R306
R308
R4422
CC49
Q302
C312
CC01
R468
R4430
Q462
220V
1 2 3 4 5 6 7 8 9
P917B
NC
GND
GND
NC
HEATER
HEATER
C446
C467
C468
C443
C444
E
B
C
L465
D406
Q404
D404
D461
C440
C445
R443
T461
10
9
8
7
6
5
4
3
2
1
(B)
(G)
(R)
1
2
3
4
5
6
P403
P402
P401
R431
D413
GJ42
GJ43
L442
R442
R392
R391
R390
C448
R444
GND
P498

F BOARD PB9731

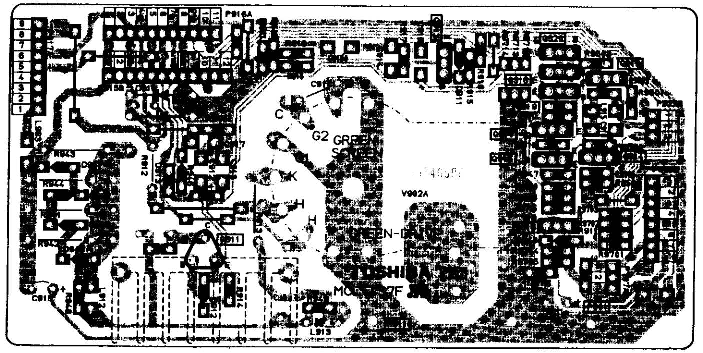
BOTTOM (FOIL) SIDE


BB14B
NC
ABL
GND
52SP/SINC
BLK
(VD/DFS)
V-GND
AFC
BB15B
H-GND
(HD/DFS)
SCL2
SDA2
NC
+9V-1
IIC-STP
V-CNT
BB16B
NC
SCP/IN
SCP/OUT
VD
NC
TP-G
TP-V
P822A
X-RAY
GND
+15V
+15V
GND
-15V
Q304
Q302
Q301
Q305
Q372
Q371
Q370
Q406
Q405
Q481
Q461
Q462
Q307
Q402
Q460
Q308
R305
R346
R337
R416
R403
R409
R410
R431
R432
R433
R434
R421
R411
R412
R419
R344
R497
R496
R486
R480
R484
R467
R470
D305
D306
D302
D304
D411
D416
D413
D442
D443
D415
D414
D448
D462
L303
L302
L304
L461
L466
L467
L441
T401
T402
T400
Z401
P417
P414
P418
G405
G402
G431
GJ02
C426
C425
C423
C417
C420
C412
C415
C461
C464
C470
C460
C449
C333
C320
C324
C325
C416
C401
C402
C335
C326
D-FOCUS
P821A
-15V
GND
GND
GND
120V
120V
120V
P496
E
B
C
G
D
S

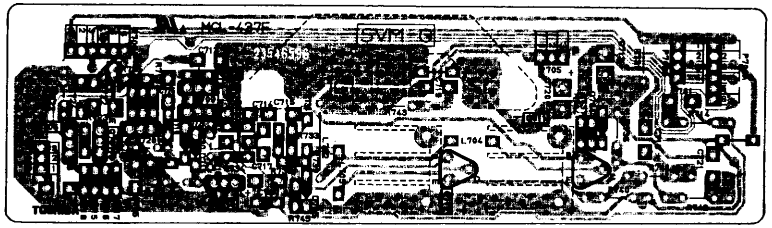
R-DRIVE BOARD PB9752-1
BOTTOM (FOIL) SIDE


B
G2
RED
K
H
V901A

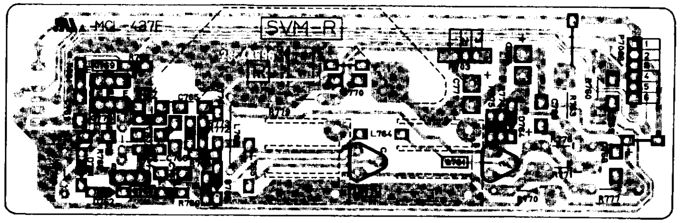
G-DRIVE BOARD PB9752-2
BOTTOM (FOIL) SIDE


P916A
C
G2
K
H
V902A
R912
L913

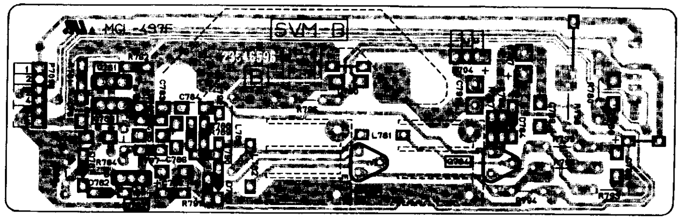
SVM-G BOARD PB9752-4
BOTTOM (FOIL) SIDE


MCL-437E
SVM-G
23546596
L704
R743

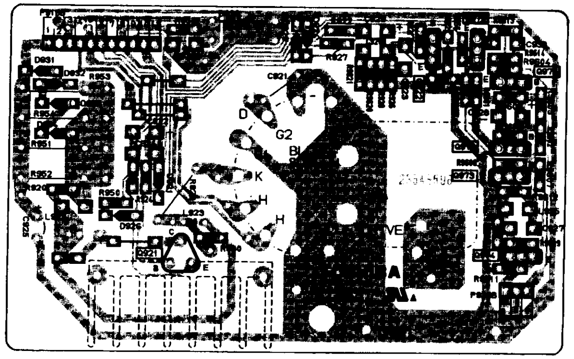
SVM-R BOARD PB9752-5
BOTTOM (FOIL) SIDE


MCL-437E
SVM-R
L764
R777

SVM-B BOARD PB9752-6
BOTTOM (FOIL) SIDE

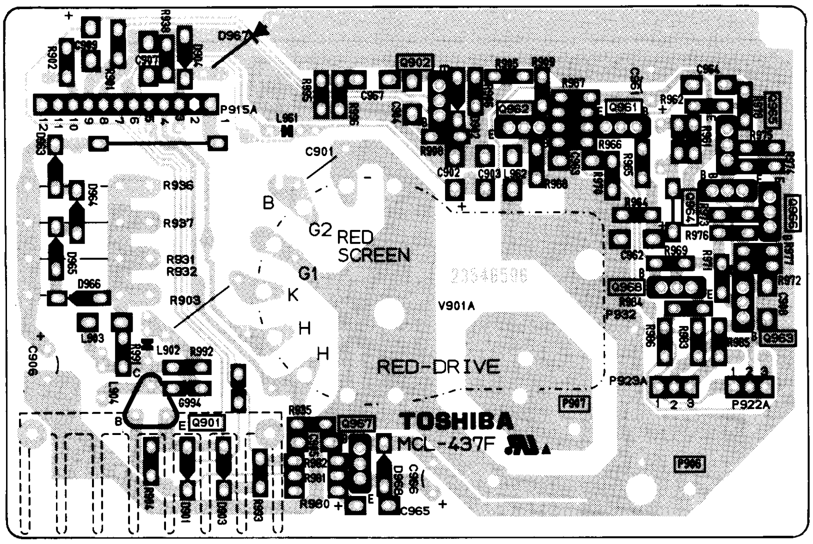

MCL-437E
SVM-B
23546596
C784
L761

B-DRIVE BOARD PB9752-3
BOTTOM (FOIL) SIDE


D
G2
B
K
H
R927
C921

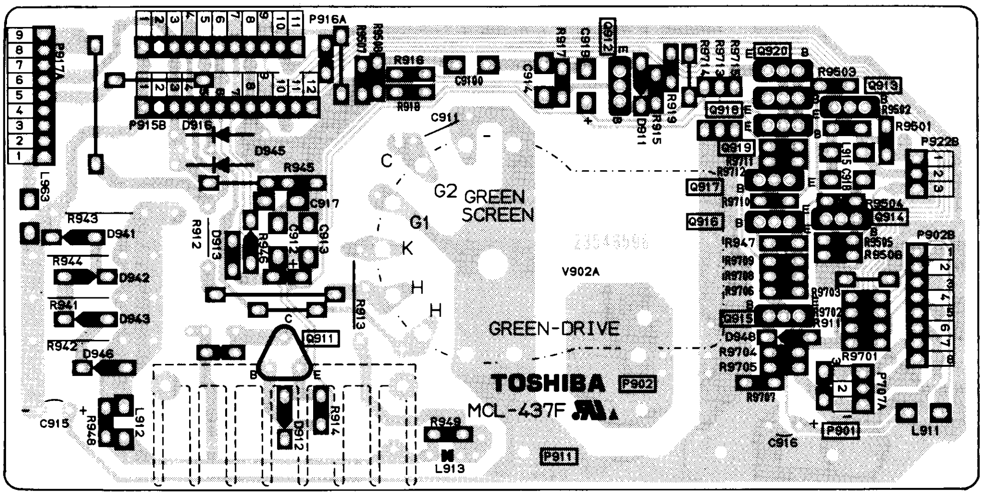
R-DRIVE BOARD PB9752-1

BOTTOM (FOIL) SIDE


P915A
C901
G2 RED
SCREEN
G1
K
H
V901A
RED-DRIVE
TOSHIBA
MCL-437F
Q901
Q902
Q951
Q952
Q957
Q962
Q963
Q964
Q965
Q968
P907
P906
P922A
P923A
P932

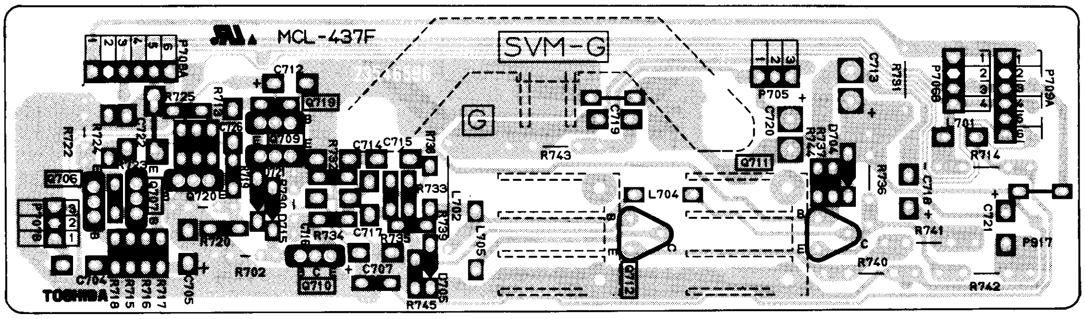
G-DRIVE BOARD PB9752-2

BOTTOM (FOIL) SIDE


P916A
P915B
P917A
C911
G2 GREEN
SCREEN
G1
K
H
V902A
GREEN-DRIVE
TOSHIBA
MCL-437F
Q911
Q912
Q913
Q914
Q915
Q916
Q917
Q918
Q919
Q920
P902
P902B
P922B
P901
P911
P907A
L911
L912
L913
L963

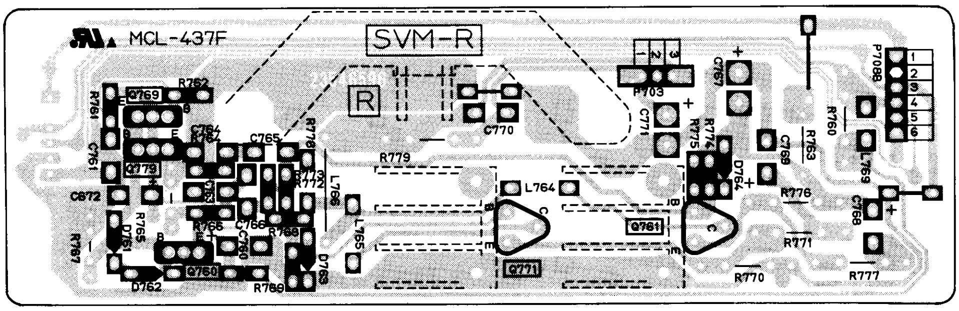
SVM-G BOARD PB9752-4

BOTTOM (FOIL) SIDE


MCL-437F
SVM-G
G
TOSHIBA
P708A
P705
P706B
P709A
P707B
P917
Q706
Q707
Q709
Q710
Q711
Q712
Q719
Q720
L701
L702
L704
L705

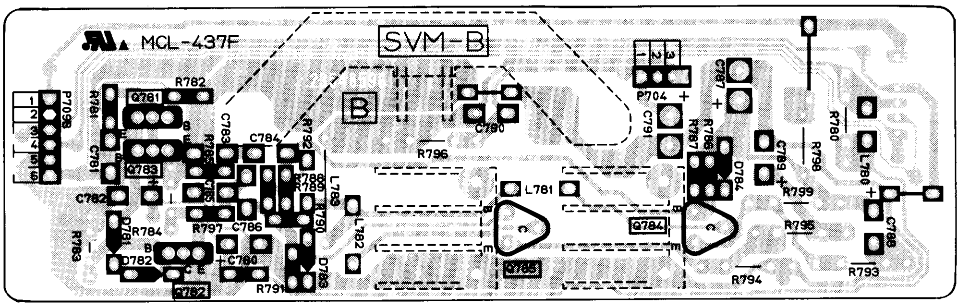
SVM-R BOARD PB9752-5

BOTTOM (FOIL) SIDE


MCL-437F
SVM-R
R
P708B
1
2
3
4
5
6
P703
C767
C771
R774
R775
C770
D764
C769
R763
R760
L769
C768
R776
R771
R777
R770
Q761
Q771
L764
R779
R778
R773
R772
L766
L765
D763
R789
R788
Q769
R762
R761
C761
C765
C764
R764
Q779
C872
R765
R766
C766
C760
D761
D762
Q760
R767
B
C
E

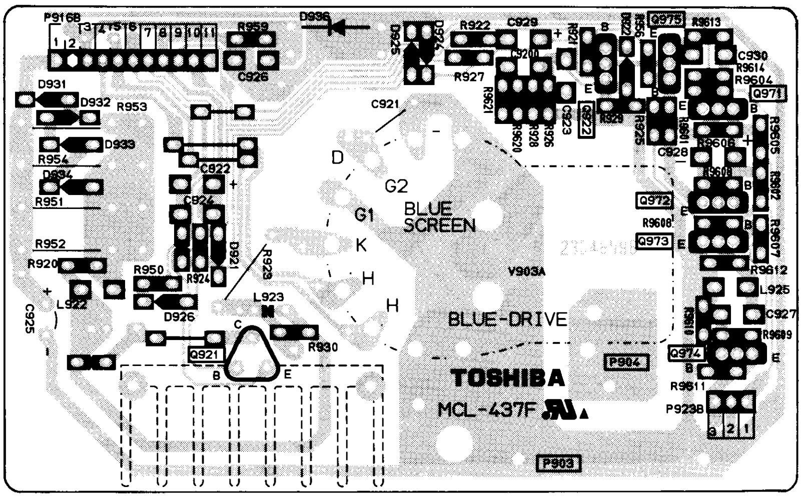
SVM-B BOARD PB9752-6

BOTTOM (FOIL) SIDE


MCL-437F
SVM-B
B
P709B
1
2
3
4
5
6
P704
C787
C791
R786
R787
C790
D784
C789
R780
R798
L780
C788
R799
R795
R793
R794
Q784
Q785
L781
R796
R792
R788
R789
L783
L782
D783
R791
Q781
R782
R781
C781
C783
C784
Q783
C782
D781
R784
R797
C786
C780
D782
Q782
R783
B
C
E

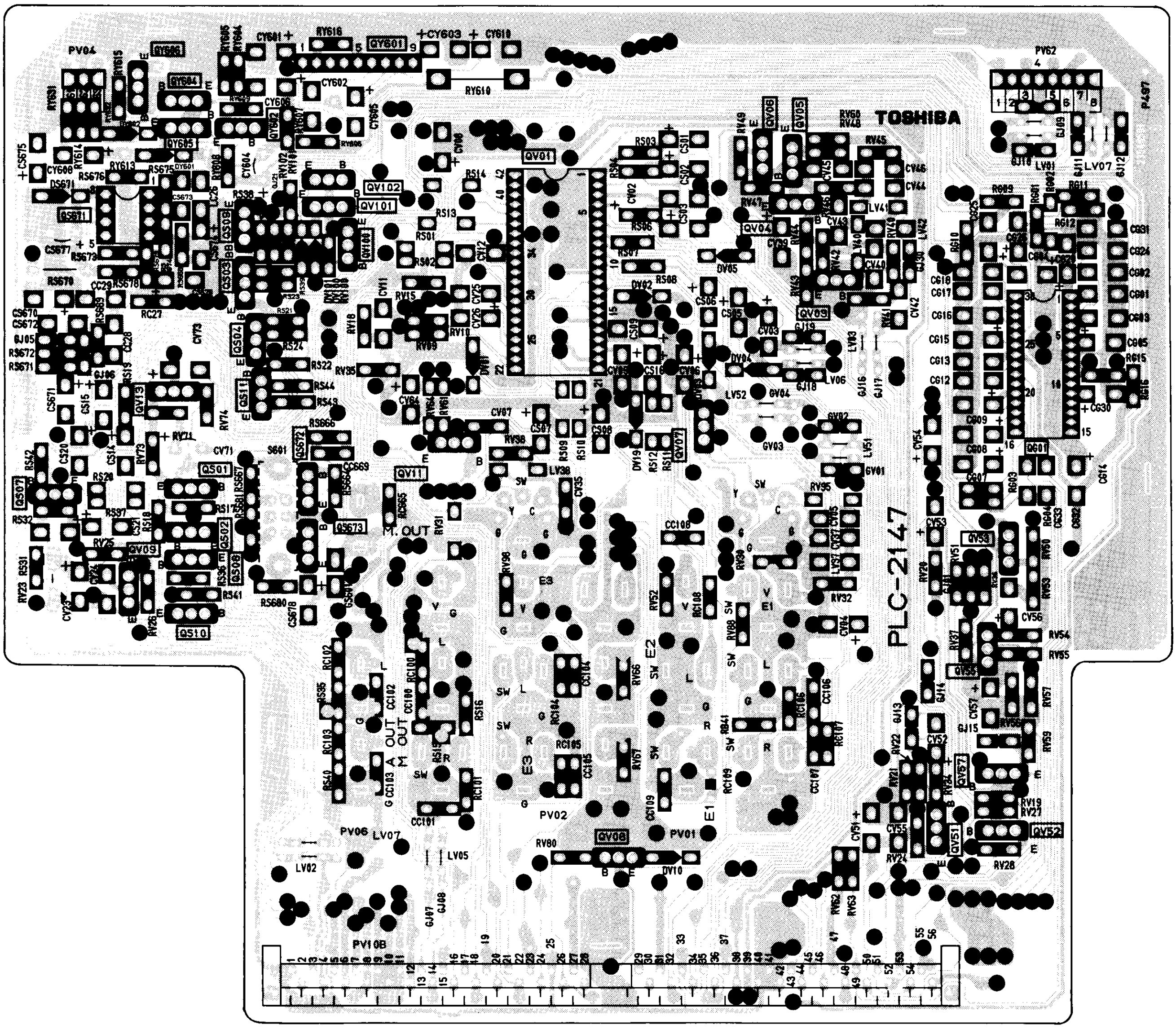
B-DRIVE BOARD PB9752-3

BOTTOM (FOIL) SIDE


P916B
1
2
3
4
5
6
7
8
9
10
11
R959
D936
C926
D925
D924
R922
C929
R927
C920
R921
R926
R928
R9620
R9621
C923
Q922
R925
R929
Q975
R9613
C930
R9614
R9604
Q971
R9601
R9606
R9605
C928
R9603
R9602
Q972
R9608
R9607
Q973
R9612
L925
C927
R9609
R9610
Q974
R9611
P923B
3
2
1
D931
D932
R953
D933
R954
D934
R951
R952
R920
L922
C925
C922
C924
D921
R950
R924
R923
L923
D926
Q921
R930
C921
D
G2
G1
K
H
H
BLUE SCREEN
BLUE-DRIVE
V903A
P904
P903
TOSHIBA
MCL-437F
B
C
E

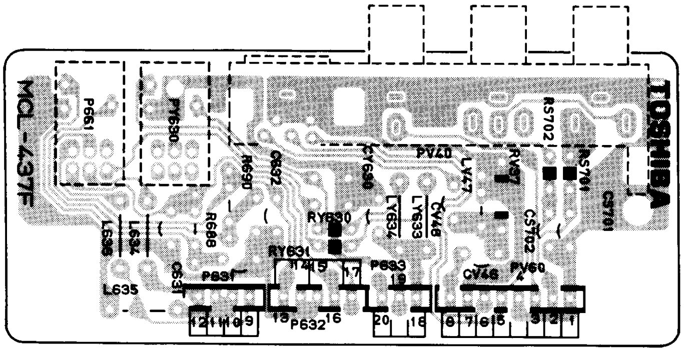
BACK/AV BOARD PB9746

BOTTOM (FOIL) SIDE


TOSHIBA
PLC-2147
PV04
PV62
P497
QV01
QV102
QV101
QV08
QV09
QV07
QV11
QS501
QS510
QS507
QS671
QY601
QY605
QY604
QV52
QV51
QV53
QV58
QS673
M. OUT
A OUT
M OUT
E1
E2
E3
PV01
PV02
PV06
PV10B
LV07
LV05
LV02
DV10
RV80
RY610
RY616
CY601
CY603
CY610
CY602
LV07
RV58
RV48
RV45

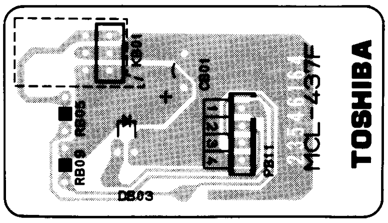
FRONT IN BOARD PB9092-2

BOTTOM (FOIL) SIDE


MCL-437F
TOSHIBA
P661
PW630
RS702
RS701
CS701
CS702
PV40
RV47
LV47
CV48
LY634
LY633
RY630
RY631
R698
R699
C632
C633
L634
L635
CS31
P631
P632
P633
PV60
CV46
12
11
10
9
13
16
20
18
19
17
15
14
8
7
6
5
3
2
1
4

RMT IN BOARD PB9092-1

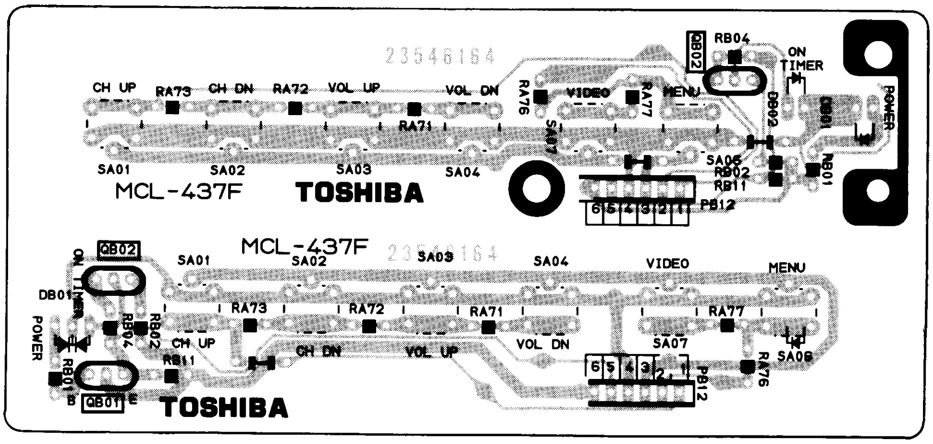
BOTTOM (FOIL) SIDE



RB01
DB01
RB05
RB09
DB03
PB11
MCL-437F
TOSHIBA

FRONT CONTROL BOARD PB9092-3

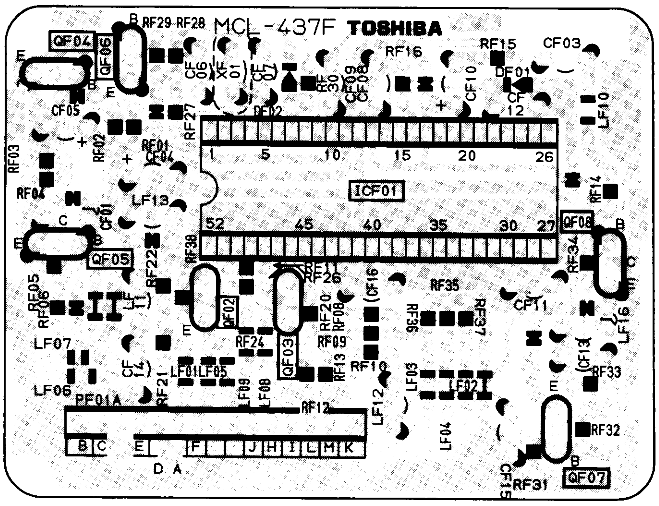
BOTTOM (FOIL) SIDE



23546164
CH UP
RA73
CH DN
RA72
VOL UP
VOL DN
RA71
RA76
VIDEO
RA77
MENU
RB04
QB02
ON TIMER
DB02
DB01
POWER
RB01
SA01
SA02
SA03
SA04
SA07
SA06
RB02
RB11
PB12
MCL-437F
TOSHIBA
QB01

TEXT BOARD PB9745

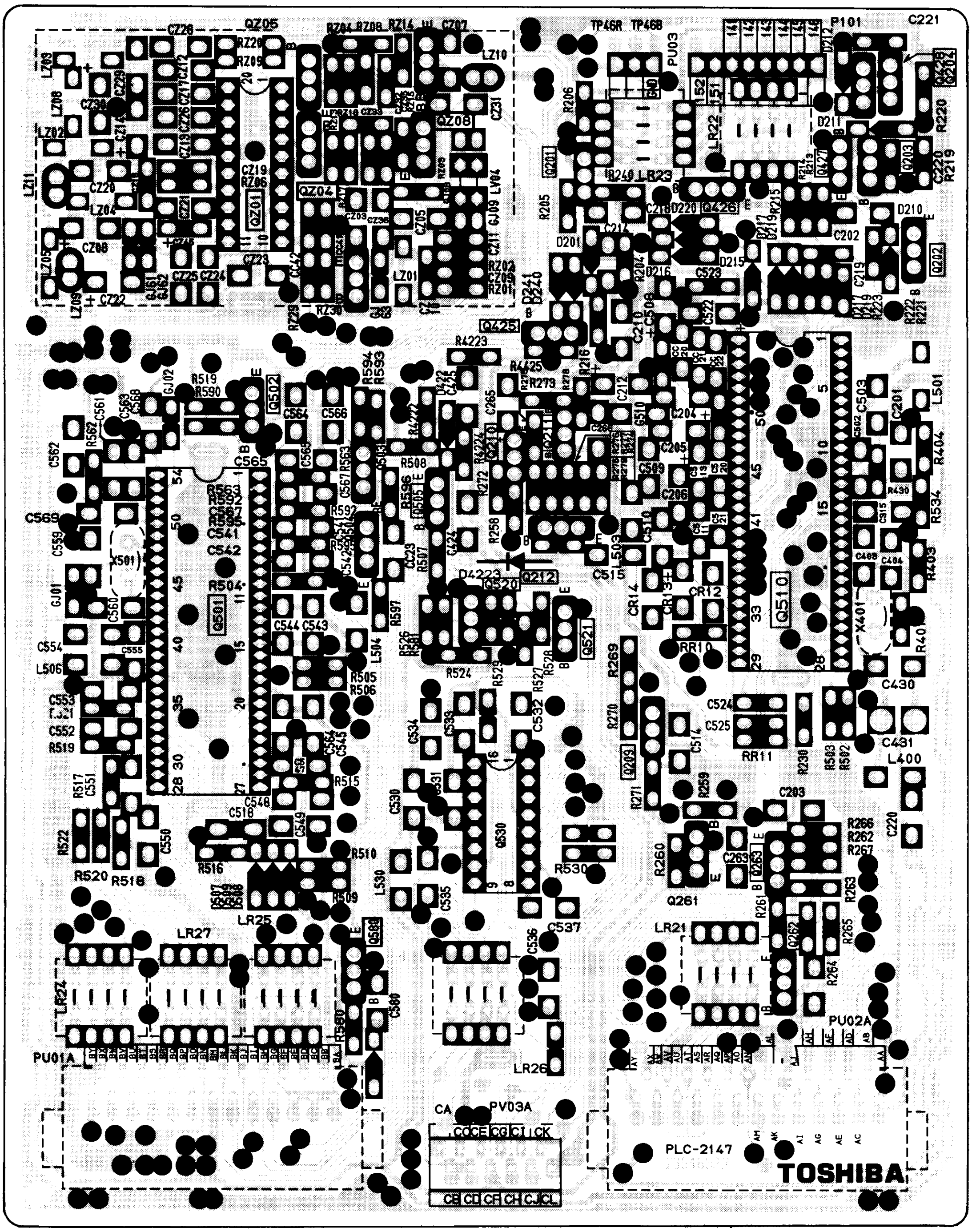
BOTTOM (FOIL) SIDE



MCL-437F
TOSHIBA
QF04
QF06
RF29
RF28
RF16
RF15
CF03
DF01
CF12
LF10
CF05
RF03
RF01
CF04
RF02
RF04
LF13
CF01
ICF01
QF05
RF38
RF22
RF27
DF02
RF14
QF08
RF34
LF16
RF05
RF06
QF02
QF03
RF11
RF26
RF20
RF08
RF09
RF13
RF10
RF35
RF36
RF37
CF11
CF13
RF33
LF07
LF06
LF01
LF05
LF08
LF09
RF24
RF21
PF01A
RF12
LF12
LF03
LF02
LF04
RF32
CF15
RF31
QF07
B C E F J H I L M K
D A

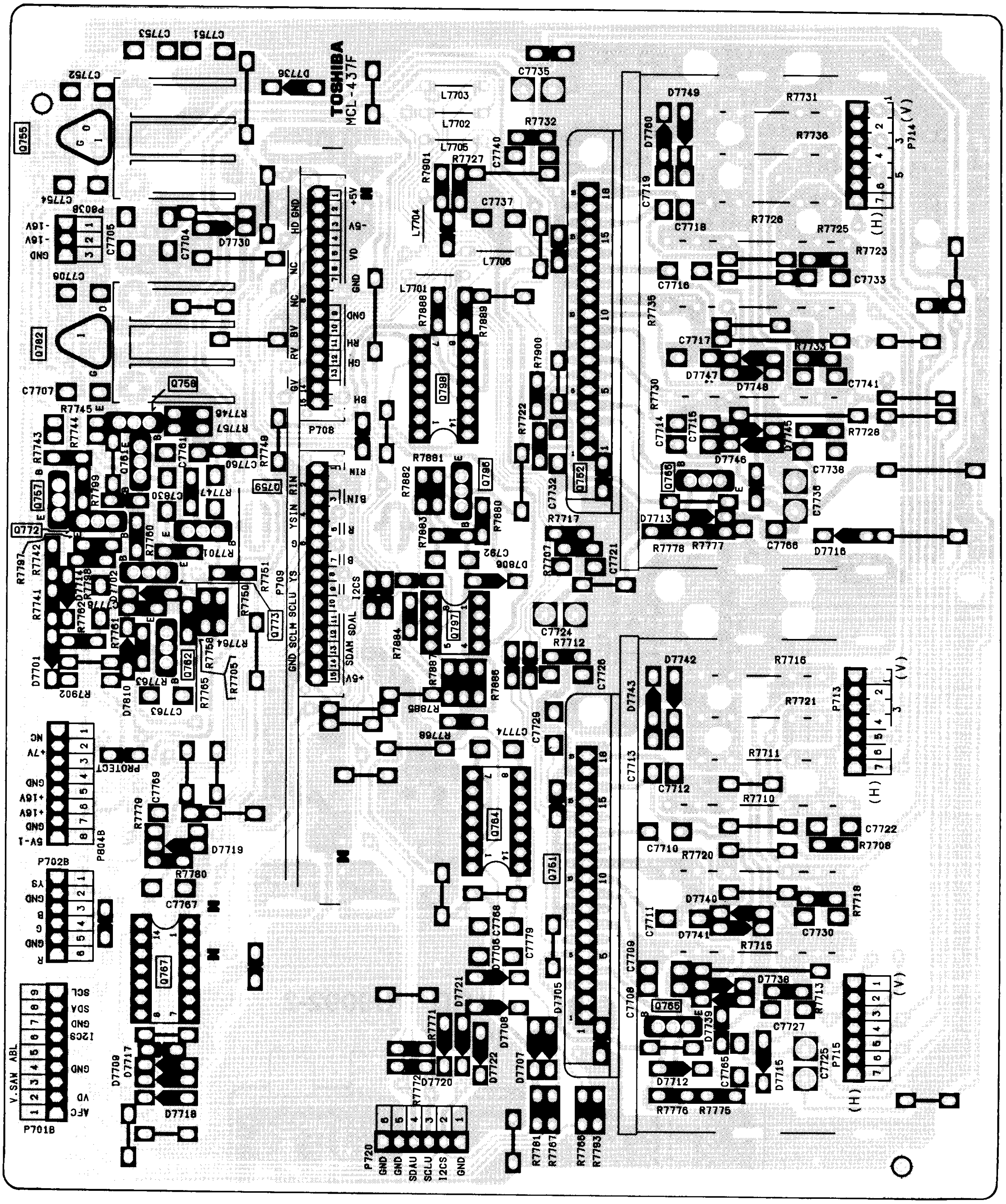
V/C/D BOARD PB9747

BOTTOM (FOIL) SIDE


QZ05
CZ26
RZ20
RZ09
LZ10
P101
C221
TP46R
TP46B
PU03
QZ08
QZ04
QZ01
Q425
R4223
Q502
Q501
Q510
Q520
Q212
Q521
Q209
Q263
Q261
Q262
Q580
Q201
Q426
Q427
Q203
Q202
D210
D211
D201
D215
D216
R206
R205
R220
R219
C220
C202
C219
L501
C503
C201
R404
R534
R403
R40
X401
C430
C431
L400
C220
X501
C565
C542
R504
C541
C544
C543
C566
C564
R519
R590
GJ02
GJ01
C561
C562
C569
C559
C560
C554
L506
C553
C552
R519
R517
C551
R522
R520
R518
C550
R516
C518
C548
R515
R510
R509
LR25
LR27
LR24
LR26
LR21
LR22
LR23
PU01A
PU02A
PV03A
CA
CC
CE
CG
CI
CK
CB
CD
CF
CH
CJ
CL
C530
C535
C536
C537
C534
C533
C532
R530
R524
R505
R506
L504
L503
L530
C515
CR12
CR14
RR10
RR11
C524
C525
R503
R502
R230
C514
R259
R269
R270
R271
R260
C203
C263
R266
R262
R267
R263
R261
R265
R264
C204
C205
C206
C509
C510
C212
C210
C506
C528
C522
R4225
R273
R258
R272
R507
R508
R597
R594
R593
D4223
PLC-2147
TOSHIBA

CONV/OUT CONTROL BOARD PB9749

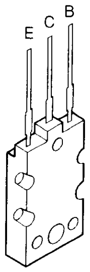
BOTTOM (FOIL) SIDE



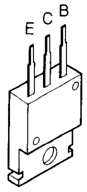
TOSHIBA
MCL-437F
C7735
L7703
L7702
L7705
R7732
R7727
C7740
R7901
C7737
L7704
L7706
L7701
R7888
R7889
Q798
R7900
R7722
C7732
Q752
D7749
D7750
R7731
R7736
P714
(H)
(V)
C7719
C7718
R7726
R7725
R7723
C7733
C7716
R7735
C7717
R7733
C7741
D7747
D7748
R7730
C7714
C7715
D7745
D7746
R7728
Q766
C7738
C7736
D7713
R7778
R7777
C7766
D7716
R7717
R7707
C7721
C7724
R7712
C7726
C7729
D7742
R7716
R7721
P713
D7743
C7713
C7712
R7711
R7710
C7722
C7710
R7720
R7708
Q751
D7740
D7741
R7715
C7730
R7718
C7711
C7709
C7708
D7738
R7713
Q765
D7739
C7727
C7765
D7715
C7725
P715
D7712
R7776
R7775
Q755
Q762
Q758
C7751
C7753
C7752
D7736
C7754
P803B
-16V
GND
C7705
C7704
D7730
C7706
C7707
R7745
R7744
R7743
R7746
R7767
R7748
C7761
Q761
C7760
R7799
Q767
Q772
C7830
R7747
Q759
R7760
R7741
R7742
R7797
R7751
P709
R7750
Q773
D7702
R7762
R7761
R7764
R7758
R7763
Q762
R7765
R7705
D7701
R7902
D7810
C7763
P708
HD GND
+5V
-5V
VD
NC
GND
RV
BV
RH
GH
BH
6V
RIN
BIN
YSIN
YS
SCLU
SCLM
GND
SDAL
SDAH
12CS
+5V
R7881
R7882
R7883
R7880
Q796
C782
D7806
R7884
Q797
R7887
R7886
R7885
R7768
C7714
Q764
C7768
C7779
D7706
D7721
R7771
D7708
D7722
D7707
D7705
R7772
D7720
R7781
R7787
R7786
R7783
P720
GND
SDAU
SCLU
12CS
NC
+7V
PROTECT
+16V
SV-1
P804B
P702B
R7779
C7769
D7719
R7780
C7767
YS
B
G
R
P701B
V.SAW
ABL
SCL
SDA
I2CS
VD
AFC
D7709
D7717
D7718

TERMINAL VIEW OF TRANSISTORS

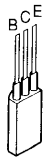
① 2SD2253
(old)
2SC5243



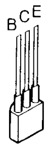
② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



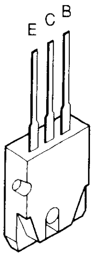
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



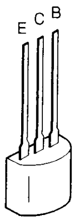
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



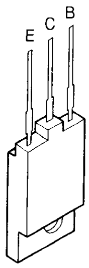
⑤ 2SA1788



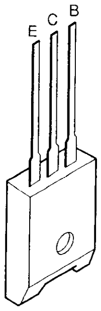
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SC5143
2SD2553
2SC5144



⑧ ON4409



MEMO

MEMO

MEMO

SPECIFICATION		Representative: 50D9UXE
Rated voltage		∿ 110 V – 127 V, 220 V – 240 V, 50/60 Hz
Power consumption (at ∿ 220 V, 50 Hz)		260 W
Dimensions (Width × Depth × Height)		1073.2 mm × 528.7 mm × 1296 mm
Mass		110 kg
Picture tube		Type 50(126 cm)
Television system (Aerial input)	Channel coverage	**System** / **VHF** / **UHF** / **CATV (Channel)** PAL B/G (CCIR) 2 – 12 21 – 69 X ~ Z+2, S1 ~ S41 PAL I (UK) — 21 – 69 — PAL D/K (CHINA) 1 – 12 13 – 57 Z-1 ~ Z-38 SECAM B/G (CCIR) 2 – 12 21 – 69 X ~ Z+2, S1 ~ S41 SECAM D/K (OIRT) 1 – 12 21 – 69 X1 ~ X19 NTSC M (US) 2 – 13 14 – 69 A-6 ~ A-1, A ~ W, AA ~ ZZ, AAA, BBB NTSC M (JAPAN) 1 – 12 13 – 62 M1 ~ M10, S1 ~ S41
	Special RF signal	**Colour system** / **Sound system** NTSC4.43 5.5/6.0/6.5 MHz PAL 60Hz 5.5/6.0/6.5 MHz
Colour system		PAL/SECAM/NTSC4.43/NTSC3.58
Sound output		14W + 14W
Accessories		• Remote controller × 1 • Caster trays × 4 • Batteries (R03, AAA) × 2 • AC adaptor × 1 (50D9UXM/61D9UXM only)

* Please refer to owner's manual in detail.

SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (1/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

40200009

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

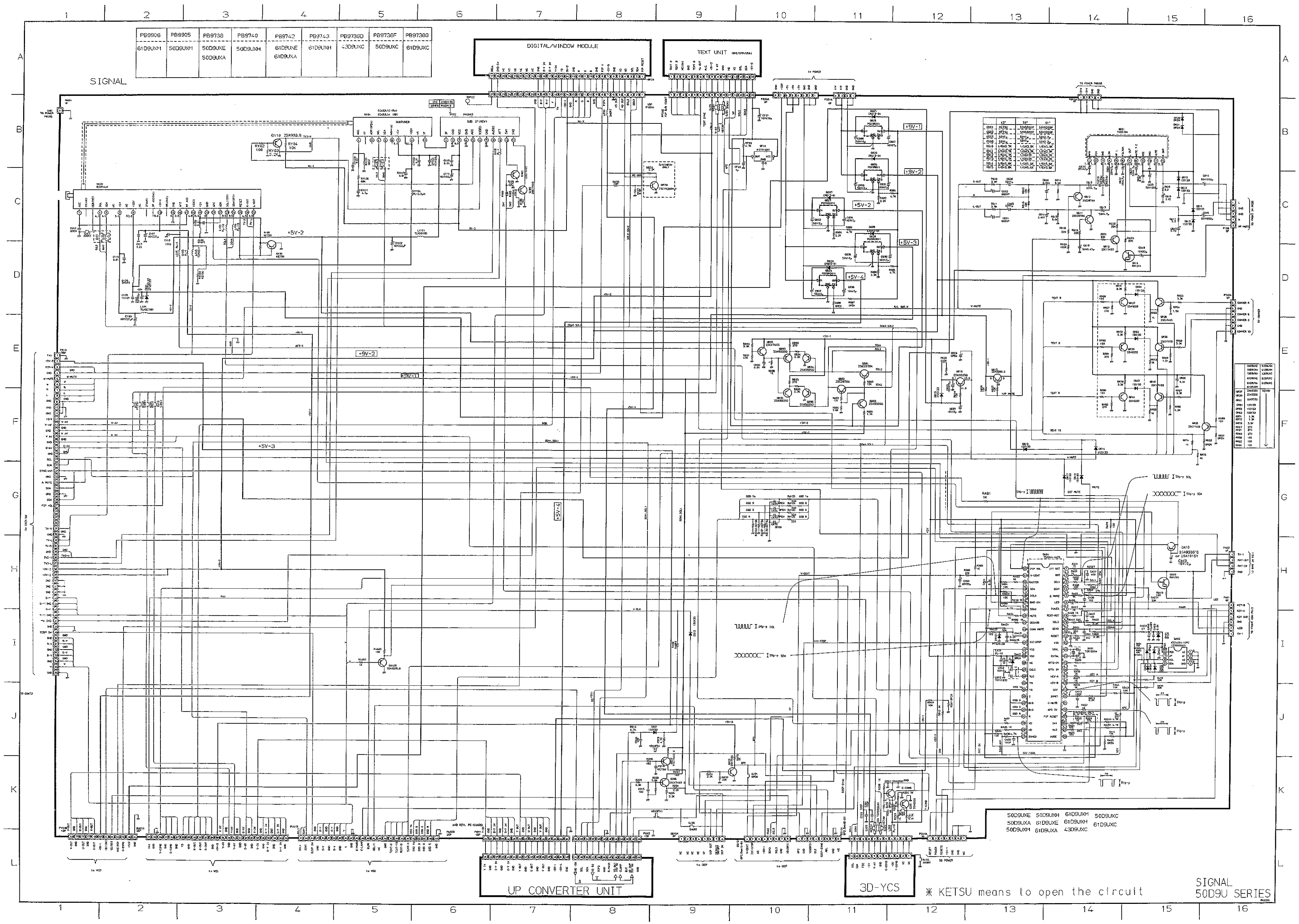
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.



PB9906	PB9905	PB9738	PB9740	PB9742	PB9743	PB9738D	PB9738F	PB9738G
61D9UXM	50D9UXM	50D9UXE 50D9UXA	50D9UXH	61D9UXE 61D9UXA	61D9UXH	43D9UXC	50D9UXC	61D9UXC

SIGNAL
DIGITAL/WINDOW MODULE
TEXT UNIT
+5V-1
+5V-2
+5V-3
+5V-4
+9V-1
+9V-2
UP CONVERTER UNIT
3D-YCS
50D9UXE 50D9UXH 61D9UXM 50D9UXC
50D9UXA 61D9UXE 61D9UXH 61D9UXC
50D9UXM 61D9UXA 43D9UXC
5Vp-p
A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

* KETSU means to open the circuit

SIGNAL
50D9U SERIES

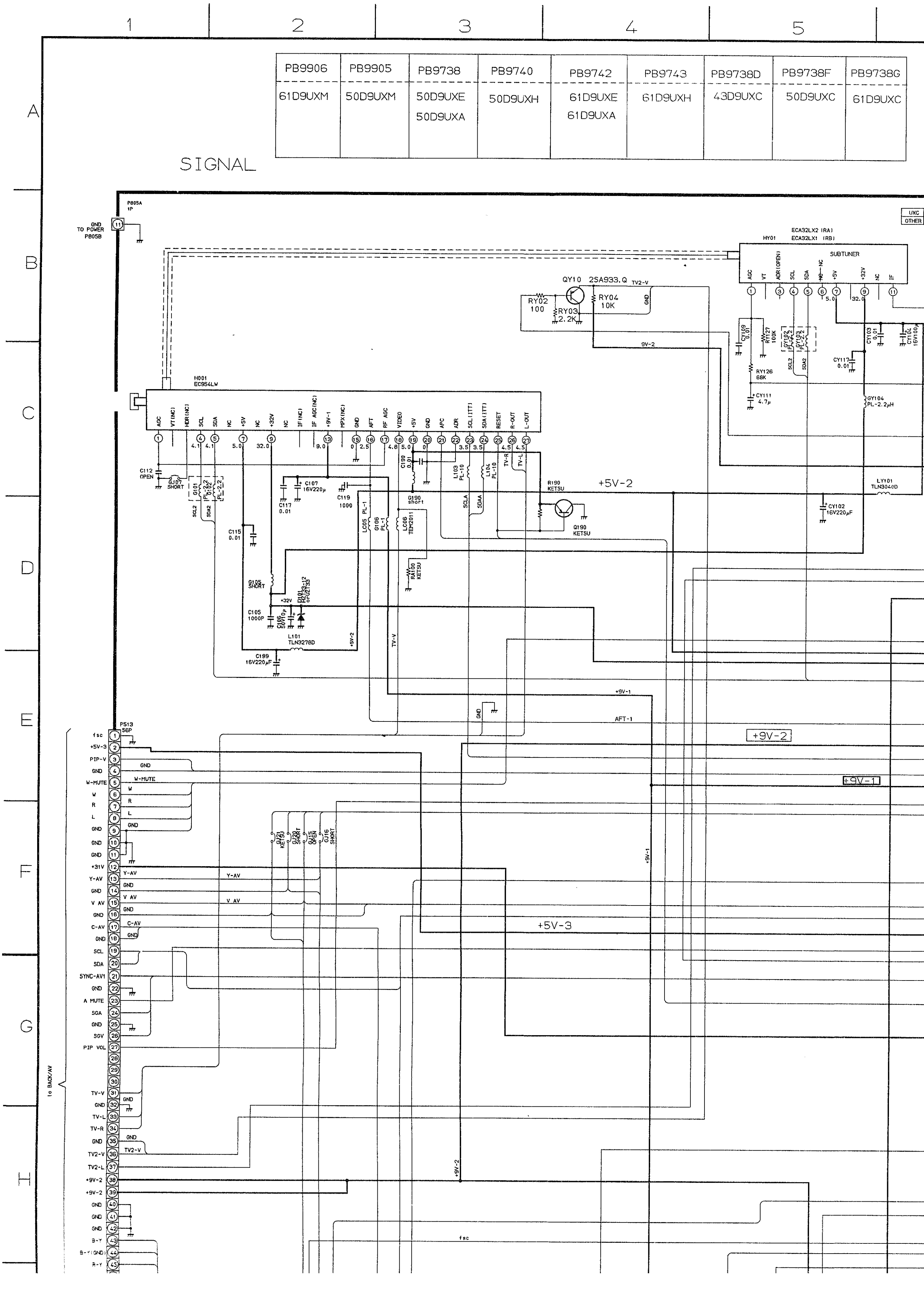
SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (1/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to ch
volts, colour bar signal. Voltages reading may va
2. All waveforms are taken using a wide band oscillos
3. Waveforms are taken using a standard colour bar
4. Make sure that CONTRAST and COLOUR cont
BRIGHTNESS control is almost in maximum posit
picture.

40200009



PB9906	PB9905	PB9738	PB9740	PB9742	PB9743	PB9738D	PB9738F	PB9738G
61D9UXM	50D9UXM	50D9UXE 50D9UXA	50D9UXH	61D9UXE 61D9UXA	61D9UXH	43D9UXC	50D9UXC	61D9UXC

1
2
3
4
5
A
B
C
D
E
F
G
H
SIGNAL
P805A 1P
GND TO POWER P805B
H001 EC954LW
AGC
VT(NC)
HDR(NC)
SCL
SDA
NC
+5V
NC
+32V
NC
IF(NC)
IF AGC(NC)
+9V-1
MPX(NC)
GND
AFT
RF AGC
VIDEO
+5V
GND
APC
ADR
SCL(TT)
SDA(TT)
RESET
R-OUT
L-OUT
HY01 ECA32LX2 (RA) ECA32LX1 (RB)
SUBTUNER
UXC
OTHER
QY10 2SA933.Q
TV2-V
RY02 100
RY03 2.2K
RY04 10K
RY27 100K
RY126 68K
CY111 4.7μ
CY117 0.01
CY103 0.01
CY104 16V100μ
CY102 16V220μF
GY104 PL-2.2μH
LY101 TLN3040D
9V-2
C112 OPEN
GJ07 SHORT
C107 16V220μ
C117 0.01
C119 1000
C115 0.01
C190 0.01
G190 short
L103 PL-10
L104 PL-10
R190 KETSU
Q190 KETSU
+5V-2
LC05 PL-1
G106 PL-1
LC06 TEM2011
RA100 KETSU
G105 SHORT
C105 1000P
L101 TLN3278D
C199 16V220μF
+32V
+5V-2
TV-V
+9V-1
AFT-1
+9V-2
+9V-1
+5V-3
P513 56P
fsc
+5V-3
PIP-V
GND
W-MUTE
W
R
L
GND
GND
GND
+31V
Y-AV
GND
V AV
GND
C-AV
GND
SCL
SDA
SYNC-AV1
GND
A MUTE
SGA
GND
SGV
PIP VOL
TV-V
GND
TV-L
TV-R
GND
TV2-V
TV2-L
+9V-2
+9V-2
GND
GND
GND
B-Y
B-Y(GND)
R-Y
to BACK/AV
fsc

VEFORMS

shown to chassis ground, line voltage 220
ding may vary ±20%.
band oscilloscope and a low capacity probe.
d colour bar signal.
LOUR controls are in mid position and
ximum position. Set other controls for best

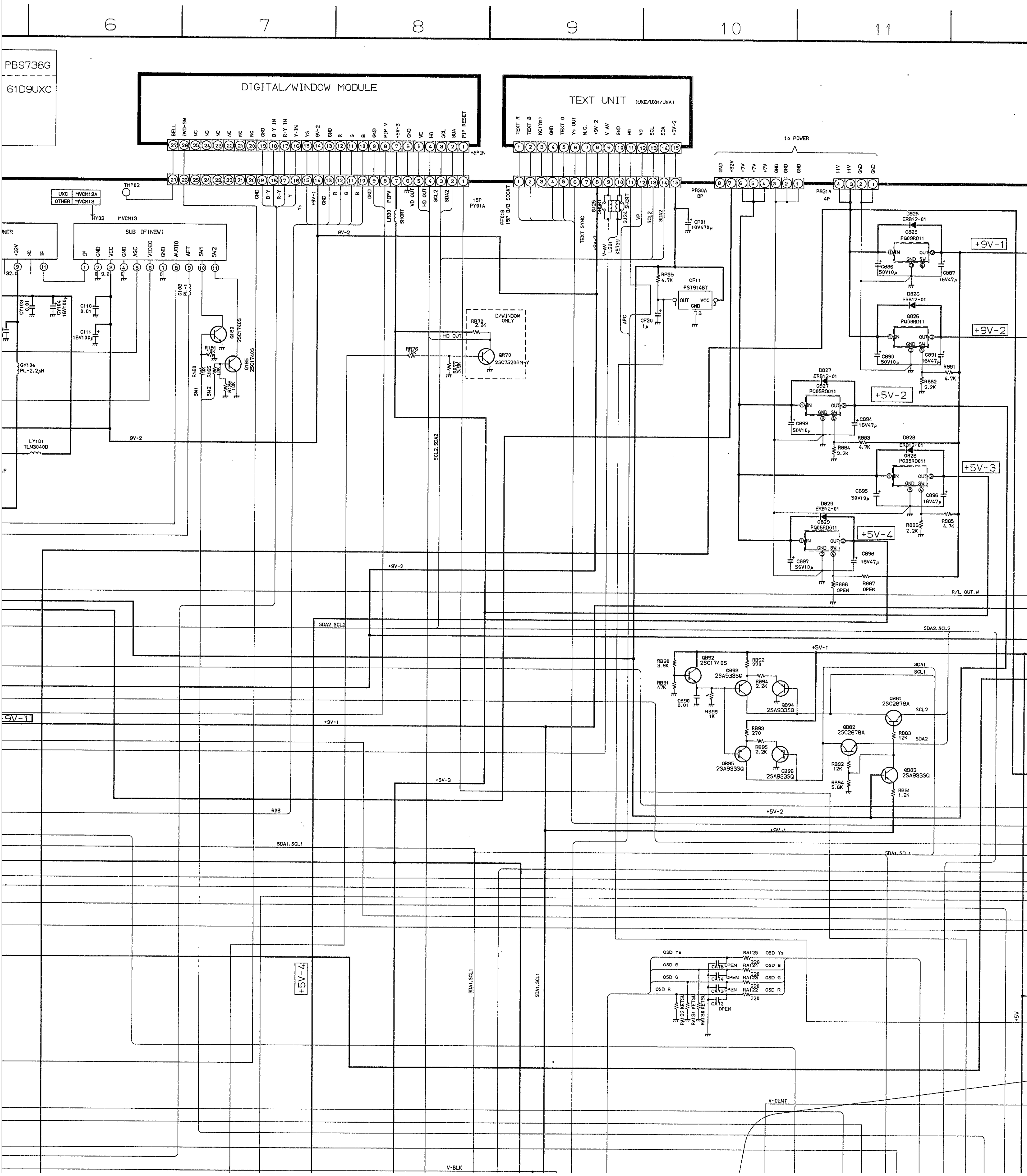
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPRESSIO

VALUE OF

1. Resistance
2. Unless oth
sed in μF a
3. Unless oth
sed in μH, a



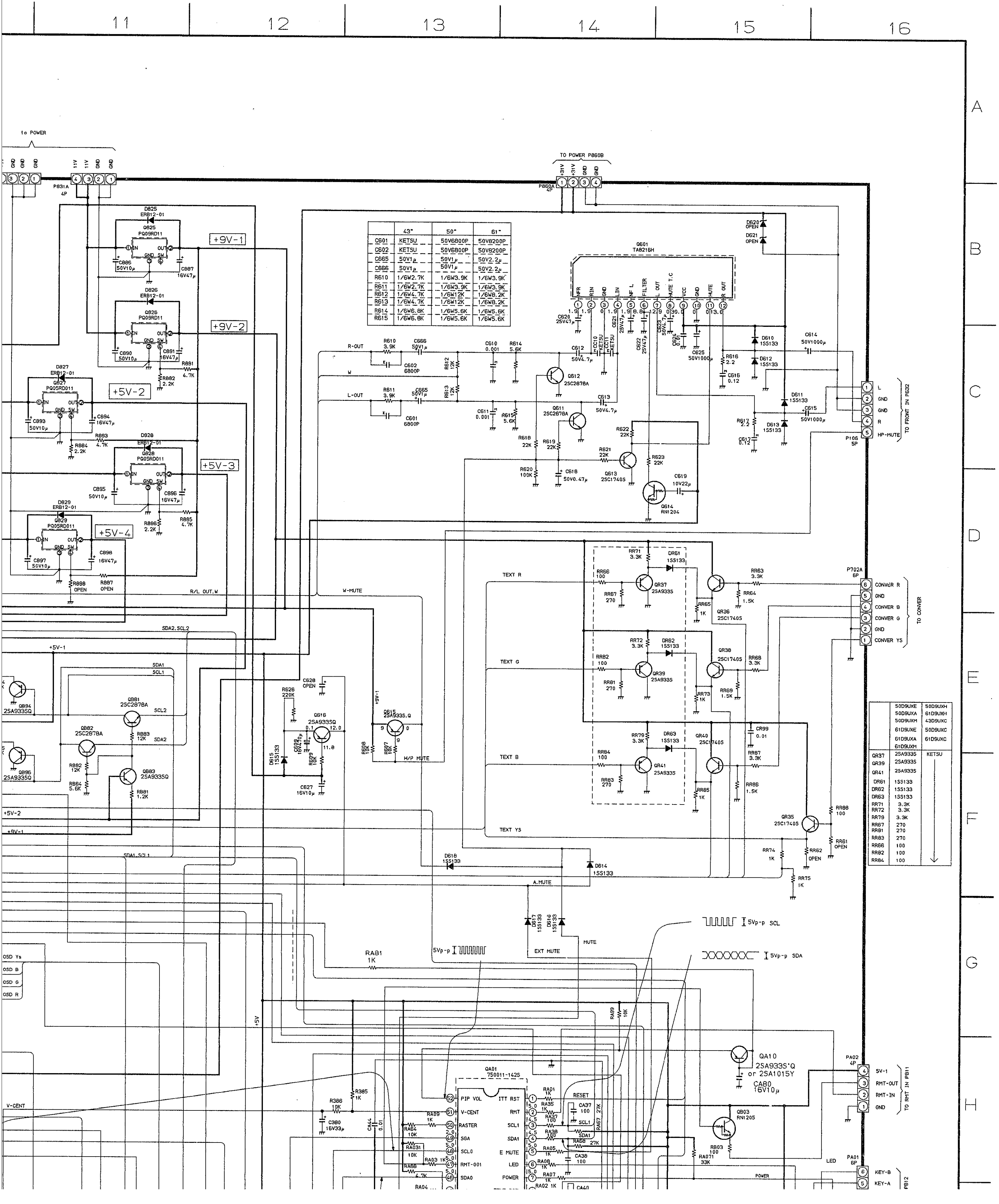
6
7
8
9
10
11
PB9738G
61D9UXC
DIGITAL/WINDOW MODULE
TEXT UNIT (UXE/UXM/UXA)
to POWER
+8PIN
15P PY01A
15P B/B SOCKT PF01B
P830A 8P
P831A 4P
UXC MVCM13A
OTHER MVCM13
HY02 MVCM13
SUB IF(NEW)
TMP02
CF01 10V470μ
QF11 PST9146T
RF39 4.7K
CF20 1μ
D/WINDOW ONLY
QR70 2SC752GTM-Y
RR70 2.2K
HD OUT
Q180 2SC1740S
Q185 2SC1740S
LY101 TLN3040D
GY104 PL-2.2μH
9V-2
+9V-1
+9V-2
+5V-2
+5V-3
+5V-4
D825 ERB12-01
Q825 PQ09RD11
D826 ERB12-01
Q826 PQ09RD11
D827 ERB12-01
Q827 PQ05RD011
D828 ERB12-01
Q828 PQ05RD011
D829 ERB12-01
Q829 PQ05RD011
C886 50V10μ
C887 16V47μ
C890 50V10μ
C891 16V47μ
C893 50V10μ
C894 16V47μ
C895 50V10μ
C896 16V47μ
C897 50V10μ
C898 16V47μ
R881 4.7K
R882 2.2K
R883 4.7K
R884 2.2K
R885 4.7K
R886 2.2K
R888 OPEN
R887 OPEN
R/L OUT.W
SDA2.SCL2
+5V-1
Q892 2SC1740S
Q893 2SA933SQ
Q894 2SA933SQ
Q895 2SA933SQ
Q896 2SA933SQ
Q881 2SC2878A
Q882 2SC2878A
Q883 2SA933SQ
SDA1.SCL1
RGB
V-CENT
V-BLK
OSD Ys
OSD B
OSD G
OSD R
RA125 220
RA124 220
RA123 220
RA122 220
CA175 OPEN
CA174 OPEN
CA173 OPEN
CA172 OPEN

ematic dia-

EXPRESSION

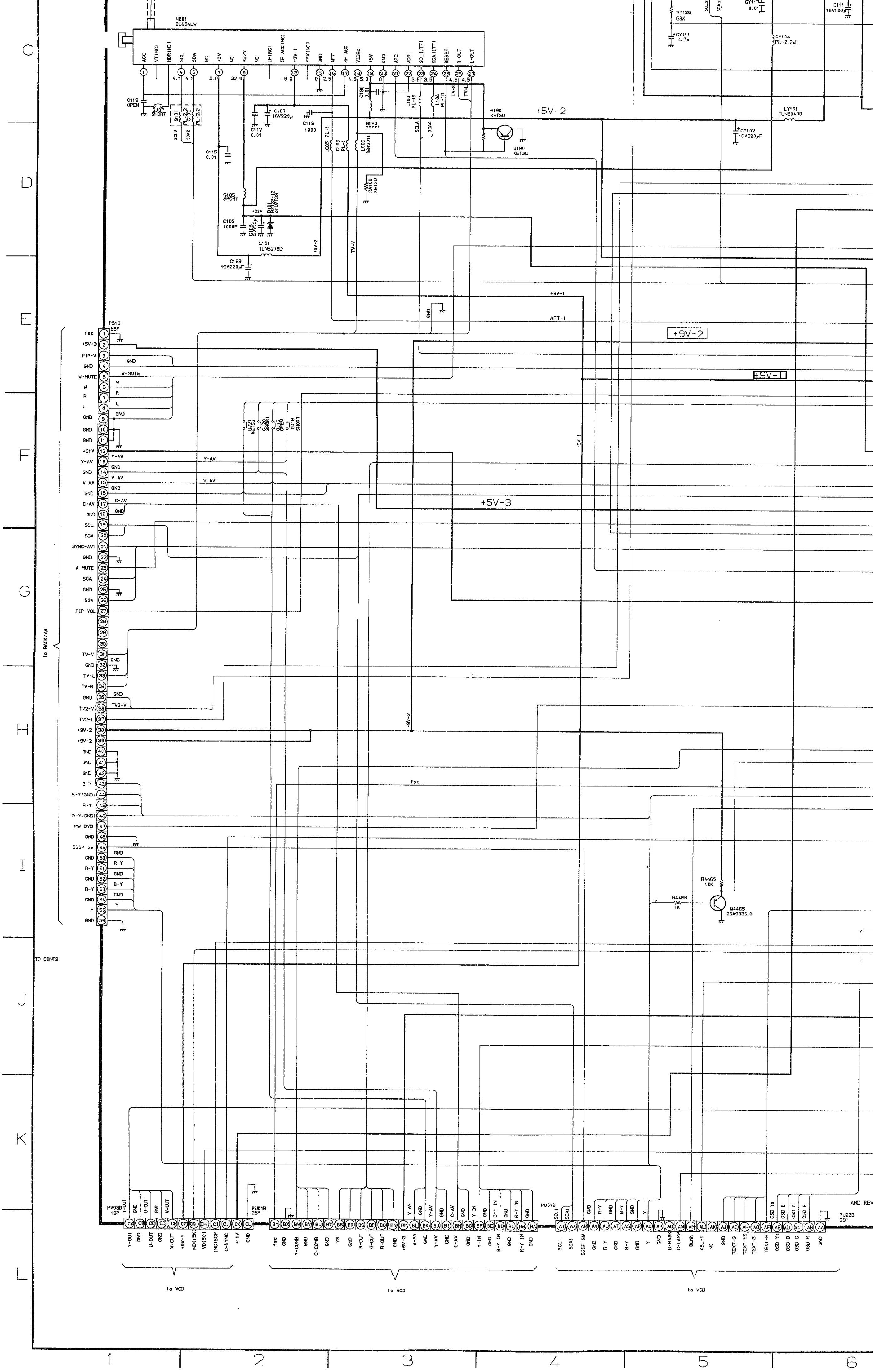
VALUE OF RESISTOR, CAPACITOR and INDUCTOR

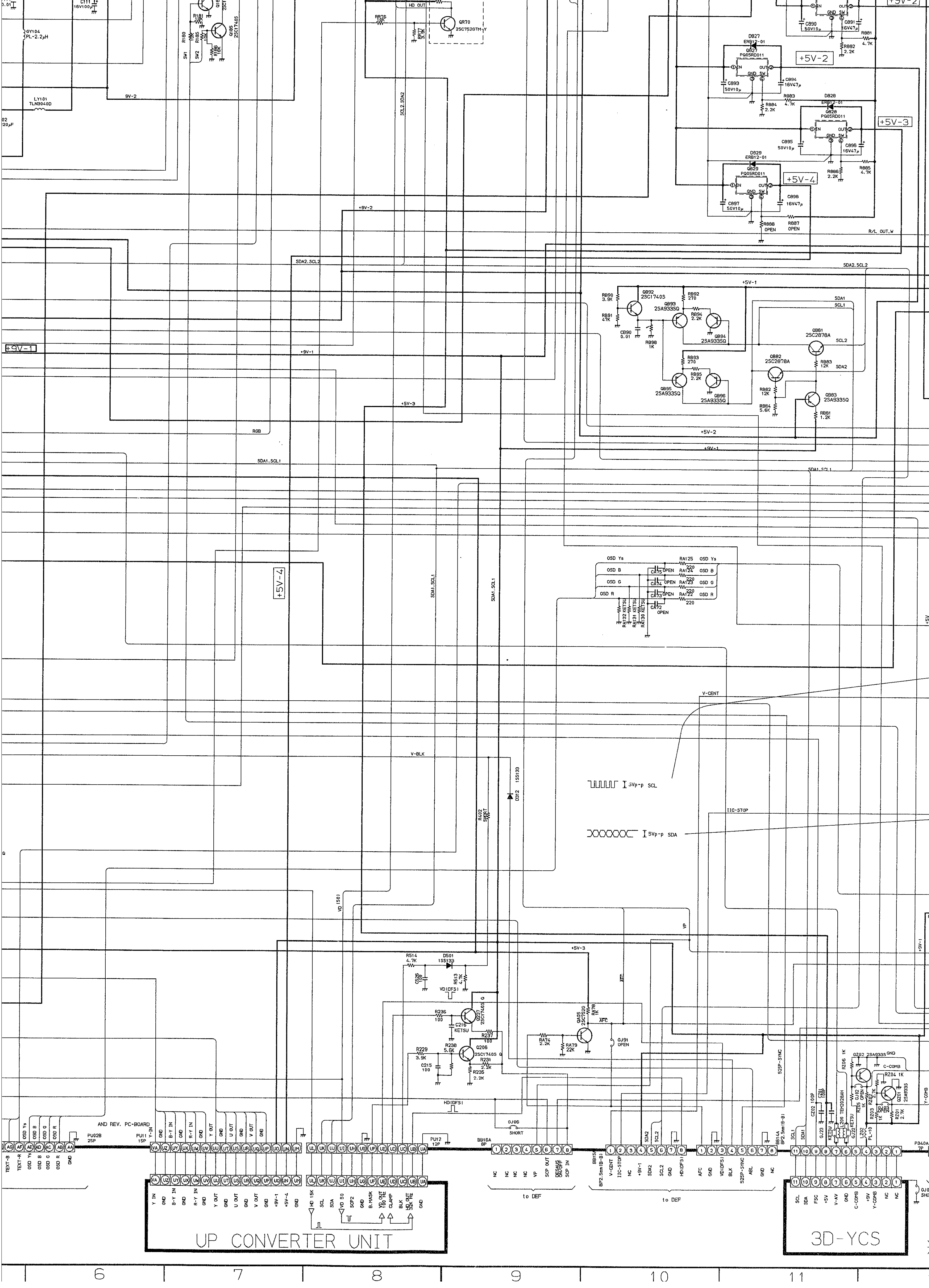
1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

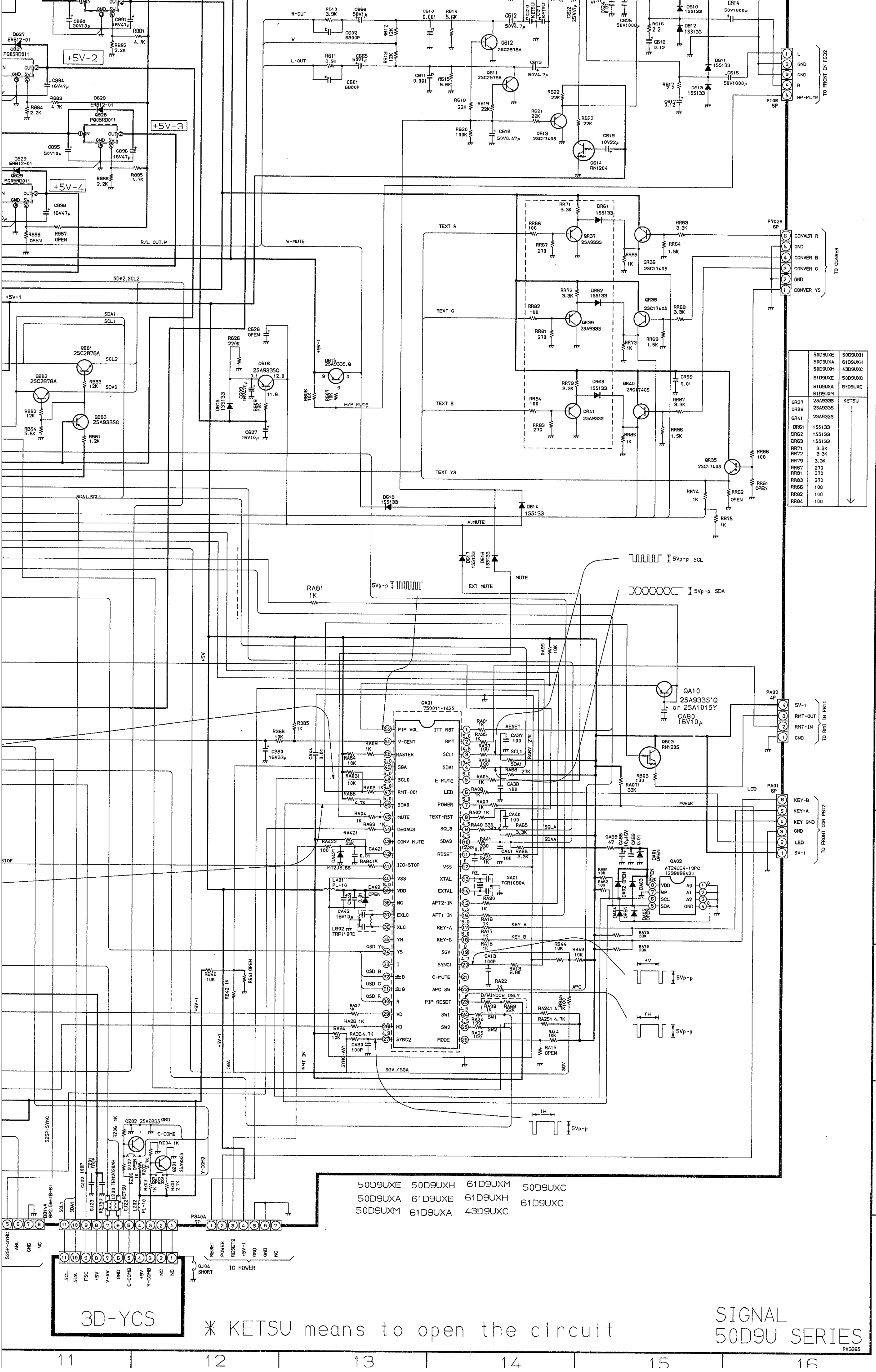

11
12
13
14
15
16
A
B
C
D
E
F
G
H
to POWER
P831A 4P
11V
GND
D825 ERB12-01
Q825 PQ09RD11
+9V-1
C886 50V10μ
C887 16V47μ
D826 ERB12-01
Q826 PQ09RD11
+9V-2
C890 50V10μ
C891 16V47μ
R891 4.7K
R882 2.2K
D827 ERB12-01
Q827 PQ05RD011
+5V-2
C893 50V10μ
C894 16V47μ
R883 4.7K
R884 2.2K
D828 ERB12-01
Q828 PQ05RD011
+5V-3
C895 50V10μ
C896 16V47μ
R886 2.2K
R885 4.7K
D829 ERB12-01
Q829 PQ05RD011
+5V-4
C897 50V10μ
C898 16V47μ
R898 OPEN
R887 OPEN
R/L OUT.W
SDA2.SCL2
+5V-1
SDA1
SCL1
Q894 2SA933SQ
Q881 2SC2878A
Q882 2SC2878A
R883 12K
R892 12K
R884 5.6K
Q883 2SA933SQ
R881 1.2K
Q896 2SA933SQ
+5V-2
+9V-1
SDA1.SCL1
OSD Ys
OSD B
OSD G
OSD R
V-CENT
TO POWER P860B
+31V
GND
P860A 4P
Q601 TA8216H
NFR
RIN
GND
LIN
NF L
FILTER
L OUT
MUTE T.C
VCC
GND
MUTE
R OUT
D620 OPEN
D621 OPEN
R-OUT
R610 3.9K
C666 50V1μ
C602 6800P
R612 12K
W
L-OUT
R611 3.9K
C665 50V1μ
C601 6800P
R613 12K
C610 0.001
R614 5.6K
C611 0.001
R615 5.6K
C620 25V47μ
C612 50V4.7μ
Q612 2SC2878A
Q611 2SC2878A
C613 50V4.7μ
R618 22K
R619 22K
R620 100K
C618 50V0.47μ
R621 22K
R622 22K
R623 22K
Q613 2SC1740S
Q614 RN1204
C619 10V22μ
C621 25V47μ
C622 25V47μ
C623 50V4.7μ
C624 0.01
C625 50V1000μ
R616 2.2
C616 0.12
D610 1SS133
D612 1SS133
C614 50V1000μ
D611 1SS133
C615 50V1000μ
D613 1SS133
R617 2.2
C617 0.12
P106 5P
L
GND
R
HP-MUTE
TO FRONT IN P632
W-MUTE
TEXT R
RR71 3.3K
DR61 1SS133
RR66 100
QR37 2SA933S
RR67 270
RR65 1K
QR36 2SC1740S
RR63 3.3K
RR64 1.5K
P702A 6P
CONVER R
GND
CONVER B
CONVER G
CONVER YS
TO CONVER
TEXT G
RR72 3.3K
DR62 1SS133
RR82 100
QR39 2SA933S
RR81 270
QR38 2SC1740S
RR68 3.3K
RR73 1K
RR69 1.5K
TEXT B
RR79 3.3K
DR63 1SS133
QR40 2SC1740S
CR99 0.01
RR84 100
QR41 2SA933S
RR83 270
RR87 3.3K
RR85 1K
RR86 1.5K
TEXT YS
QR35 2SC1740S
RR88 100
RR74 1K
RR62 OPEN
RR61 OPEN
RR75 1K
R626 220K
C628 OPEN
Q616 2SA933SQ
D615 1SS133
C626 16V220μ
R629 10K
C627 16V10μ
+9V-1
Q615 2SA933S.Q
R608 10K
R607 10K
H/P MUTE
D618 1SS133
D614 1SS133
A.MUTE
D617 1SS133
D616 1SS133
EXT MUTE
MUTE
5Vp-p SCL
5Vp-p SDA
5Vp-p
RA81 1K
+5V
RA99 10K
QA10 2SA933S'Q or 2SA1015Y
CA80 16V10μ
PA02 4P
5V-1
RMT-OUT
RMT-IN
GND
TO RMT IN PB11
QA01 750011-1425
PIP VOL
V-CENT
RASTER
SGA
SCL0
RMT-001
SDA0
ITT RST
RMT
SCL1
SDA1
E MUTE
LED
POWER
RESET
R385 1K
R386 10K
C380 16V33μ
CA44 0.01
RA09 1K
RA64 10K
RA031 10K
RA03 1K
RA68 4.7K
RA04
RA01 1K
RA35 1K
RA37 100
CA37 100
RA38 100
RA67 27K
RA68 27K
RA05 1K
RA06 1K
CA38 100
RA07 1K
RA02 1K
CA40
QB03 RN1205
RB03 100
RA071 33K
LED
POWER
PA01 6P
KEY-B
KEY-A
PB12

	43"	50"	61"
C601	KETSU	50V6800P	50V8200P
C602	KETSU	50V6800P	50V8200P
C665	50V1μ	50V1μ	50V2.2μ
C666	50V1μ	50V1μ	50V2.2μ
R610	1/6W2.7K	1/6W3.9K	1/6W3.9K
R611	1/6W2.7K	1/6W3.9K	1/6W3.9K
R612	1/6W4.7K	1/6W12K	1/6W8.2K
R613	1/6W4.7K	1/6W12K	1/6W8.2K
R614	1/6W6.8K	1/6W5.6K	1/6W5.6K
R615	1/6W6.8K	1/6W5.6K	1/6W5.6K

	50D9UXE 50D9UXA 50D9UXM 61D9UXE 61D9UXA 61D9UXM	50D9UXH 61D9UXH 43D9UXC 50D9UXC 61D9UXC
QR37	2SA933S	KETSU
QR39	2SA933S	↓
QR41	2SA933S	
DR61	1SS133	
DR62	1SS133	
DR63	1SS133	
RR71	3.3K	
RR72	3.3K	
RR79	3.3K	
RR67	270	
RR81	270	
RR83	270	
RR66	100	
RR82	100	
RR84	100	


H001
EC954LW
AGC
VT(NC)
HDR(NC)
SCL
SDA
NC
+5V
NC
+32V
NC
IF(NC)
IF AGC(NC)
+9V-1
MPX(NC)
GND
AFT
RF AGC
VIDEO
+5V
GND
AFC
ADR
SCL(ITT)
SDA(ITT)
RESET
R-OUT
L-OUT
4.1
4.1
5.0
32.0
9.0
0
2.5
4.8
5.0
0
3.5
3.5
4.5
4.5
C112
OPEN
GJ07
SHORT
G101
PL-2.2
G102
PL-2.2
C107
16V220μ
C117
0.01
C119
1000
C115
0.01
C190
0.01
G190
short
L103
PL-10
L104
PL-10
SCLA
SDAA
TV-R
TV-L
R190
KETSU
Q190
KETSU
+5V-2
LC05
PL-1
G106
PL-1
LC06
TEM2011
RA110
KETSU
G105
SHORT
D101
RD33-12
or UZ133
+32V
C105
1000P
C106
50V10μ
L101
TLN3276D
+5V-2
TV-V
C199
16V220μF
RY126
68K
CY111
4.7μ
CY117
0.01
C111
16V100μ
GY104
PL-2.2μH
LY101
TLN3040D
CY102
16V220μF
SCL2
SDA2
+9V-1
AFT-1
GND
+9V-2
+9V-1
+5V-3
+9V-1
+9V-2
P513
56P
fsc
+5V-3
PIP-V
GND
W-MUTE
W
R
L
GND
GND
GND
+31V
Y-AV
GND
V AV
GND
C-AV
GND
SCL
SDA
SYNC-AV1
GND
A MUTE
SGA
GND
SGV
PIP VOL
TV-V
GND
TV-L
TV-R
GND
TV2-V
TV2-L
+9V-2
+9V-2
GND
GND
GND
B-Y
B-Y(GND)
R-Y
R-Y(GND)
MW DVD
GND
525P SW
GND
R-Y
GND
B-Y
GND
Y
GND
to BACK/AV
GND
W-MUTE
W
R
L
GND
Y-AV
GND
V AV
GND
C-AV
GND
GND
TV2-V
GND
R-Y
GND
B-Y
GND
Y
Y-AV
V AV
GJ14
KETSU
GJ20
SHORT
GJ15
OPEN
GJ16
SHORT
fsc
Y
R4465
10K
Y
R4466
1K
Q4465
2SA933S,Q
TO CONT2
PV03B
12P
Y-OUT
GND
U-OUT
GND
V-OUT
+9V-1
HD(15K)
VD(150)
(NC)15CP
C-SYNC
+11V
GND
PU01B
25P
fsc
GND
Y-COMB
GND
C-COMB
GND
YS
GND
R-OUT
G-OUT
B-OUT
GND
+5V-3
V-AV
GND
Y-AV
GND
C-AV
GND
Y-IN
GND
B-Y IN
GND
R-Y IN
GND
PU01B
SCL1
SDA1
525P SW
GND
R-Y
GND
B-Y
GND
Y
GND
B-MASK
C-LAMP
BLNK
ABL-1
NC
GND
TEXT-G
TEXT-YS
TEXT-B
TEXT-R
OSD Ys
OSD B
OSD G
OSD R
GND
PU02B
25P
AND REV
to VCD
to VCD
to VCD
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6


+5V-2
+5V-3
+5V-4
+9V-1
+9V-2
+5V-1
+5V-3
+5V-4
PQ05RD011
ERB12-01
Q827
Q828
Q829
D827
D828
D829
C893 50V10μ
C894 16V47μ
C895 50V10μ
C896 16V47μ
C897 50V10μ
C898 16V47μ
R888 OPEN
R887 OPEN
R/L OUT.W
SDA2.SCL2
SDA1.SCL1
SCL2.SDA2
Q892 2SC1740S
Q893 2SA933SQ
Q894 2SA933SQ
Q895 2SA933SQ
Q896 2SA933SQ
QB81 2SC2878A
QB82 2SC2878A
QB83 2SA933SQ
QR70 2SC752GTM-Y
GY104 PL-2.2μH
LY101 TLN3040D
C111 16V100μ
Q185 2SC1740S
9V-2
HD OUT
RGB
OSD Ys
OSD B
OSD G
OSD R
V-CENT
IIC-STOP
V-BLK
D312 1SS133
R402 SHORT
3Vp-p SCL
5Vp-p SDA
VD(50)
VP
AFC
525P-SYNC
D501 1SS133
R514 4.7K
Q207 2SC1740S
Q206 2SC1740S
Q205 2SC752G
VD(DFS)
HD(DFS)
GJ06 SHORT
GJ91 OPEN
Q202 2SA933S
Q201 2SK353
C-COMB
Y-COMB
AND REV. PC-BOARD
PU02B 25P
PU11 15P
PU12 12P
BB16A 8P
BB14A
P340A 7P
TEXT-B
TEXT-R
OSD Ys
OSD B
OSD G
OSD R
GND
Y IN
B-Y IN
R-Y IN
Y OUT
U OUT
V OUT
+9V-1
+5V-4
HD 15K
SCL
SDA
VD 50
SCP2
B.MASK
YC OUT 100 Hz
CLAMP
BLK
HD OUT 32K Hz
NC
VP
SCP OUT
DEGAUS ON/OFF
SCP IN
to DEF
V-CENT
IIC-STOP
+9V-1
SDA2
SCL2
HD(DFS)
AFC
VD(DFS)
BLK
525P-SYNC
ABL
FSC
+5V
V-AV
C-COMB
+9V
Y-COMB
UP CONVERTER UNIT
3D-YCS
6
7
8
9
10
11


+5V-2
+5V-3
+5V-4
PQ05RD011
ERB12-01
R-OUT
L-OUT
TEXT R
TEXT G
TEXT B
TEXT YS
W-MUTE
R/L OUT.W
SDA2.SCL2
SDA1
SCL1
SDA1.SCL1
+5V-1
H/P MUTE
A.MUTE
EXT MUTE
MUTE
P105 5P
L
GND
GND
R
HP-MUTE
TO FRONT IN P532
P702A 6P
CONVER R
GND
CONVER B
CONVER G
GND
CONVER YS
TO CONVER
QA01 750011-1425
PIP VOL
V-CENT
RASTER
SGA
SCL0
RMT-001
SDA0
MUTE
DEGAUS
CONV MUTE
IIC-STOP
VSS
VDD
NC
EXLC
XLC
YM
YS
I
B
G
R
VD
HD
SYNC2
ITT RST
RMT
SCL1
SDA1
E MUTE
LED
POWER
TEXT-RST
SCL3
SDA3
RESET
VSS
XTAL
EXTAL
AFT2-IN
AFT1 IN
KEY-A
KEY-B
SGV
SYNC1
C-MUTE
APC SW
PIP RESET
SW1
SW2
MODE
QA10 2SA933S'Q or 2SA1015Y
CA80 16V10μ
QB03 RN1205
QA02 AT24C64-10PC (239066421)
XA01 TCR1080A
PA02 4P
5V-1
RMT-OUT
RMT-IN
GND
TO RMT IN PB11
PA01 6P
KEY-B
KEY-A
KEY GND
GND
LED
5V-1
TO FRONT CON PB12
5Vp-p SCL
5Vp-p SDA
5Vp-p
fV
fH
D/WINDOW ONLY
SGV/SGA
P040A 7P
RESET
POWER
RESET2
+5V-1
GND
GND
NC
TO POWER
QJ04 SHORT
SCL
SDA
FSC
+5V
V-AV
GND
C-COMB
+9V
Y-COMB
NC
NC
525P-SYNC
ABL
GND
NC
3D-YCS
PK3265
11
12
13
14
15
16
C
D
E
F
G
H
I
J
K
L

	50D9UXE 50D9UXA 50D9UXM 61D9UXE 61D9UXA 61D9UXM	50D9UXH 61D9UXH 43D9UXC 50D9UXC 61D9UXC
QR37	2SA933S	KETSU
QR39	2SA933S	↓
QR41	2SA933S	↓
DR61	1SS133	↓
DR62	1SS133	↓
DR63	1SS133	↓
RR71	3.3K	↓
RR72	3.3K	↓
RR79	3.3K	↓
RR67	270	↓
RR81	270	↓
RR83	270	↓
RR66	100	↓
RR82	100	↓
RR84	100	↓

50D9UXE 50D9UXH 61D9UXM 50D9UXC
50D9UXA 61D9UXE 61D9UXH 61D9UXC
50D9UXM 61D9UXA 43D9UXC

✻ KETSU means to open the circuit

SIGNAL
50D9U SERIES

SCHEMATIC DIAGRAM MODEL: 50D9UXE / 50D9UXH (2/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

40200009

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

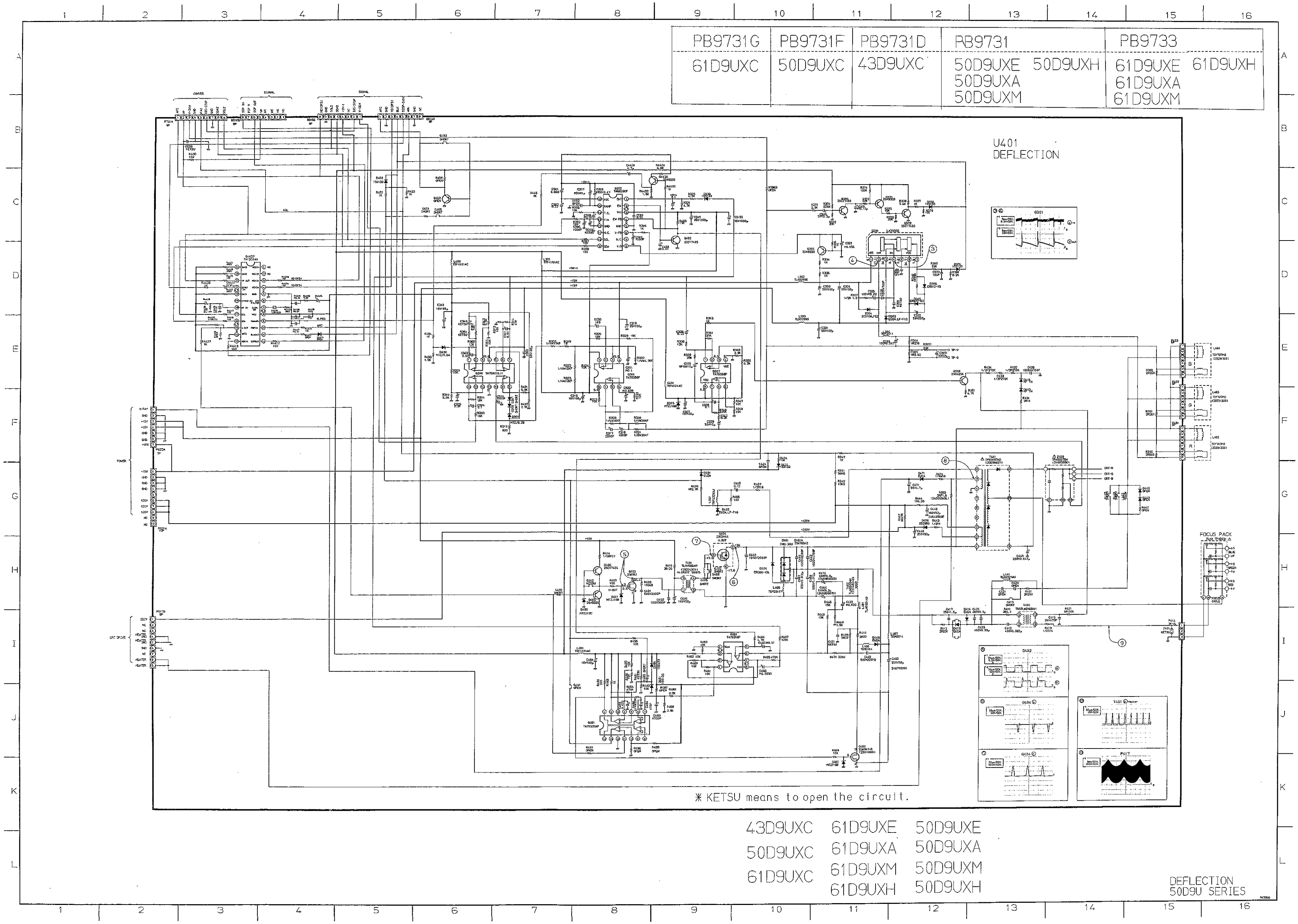
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.



PB9731G	PB9731F	PB9731D	RB9731	PB9733
61D9UXC	50D9UXC	43D9UXC	50D9UXE 50D9UXH 50D9UXA 50D9UXM	61D9UXE 61D9UXH 61D9UXA 61D9UXM

U401
DEFLECTION
POWER
SIGNAL
CRT DRIVE
FOCUS PACK
* KETSU means to open the circuit.
43D9UXC 61D9UXE 50D9UXE
50D9UXC 61D9UXA 50D9UXA
61D9UXC 61D9UXM 50D9UXM
61D9UXH 50D9UXH
DEFLECTION
50D9U SERIES

SCHEMATIC DIAGRAM

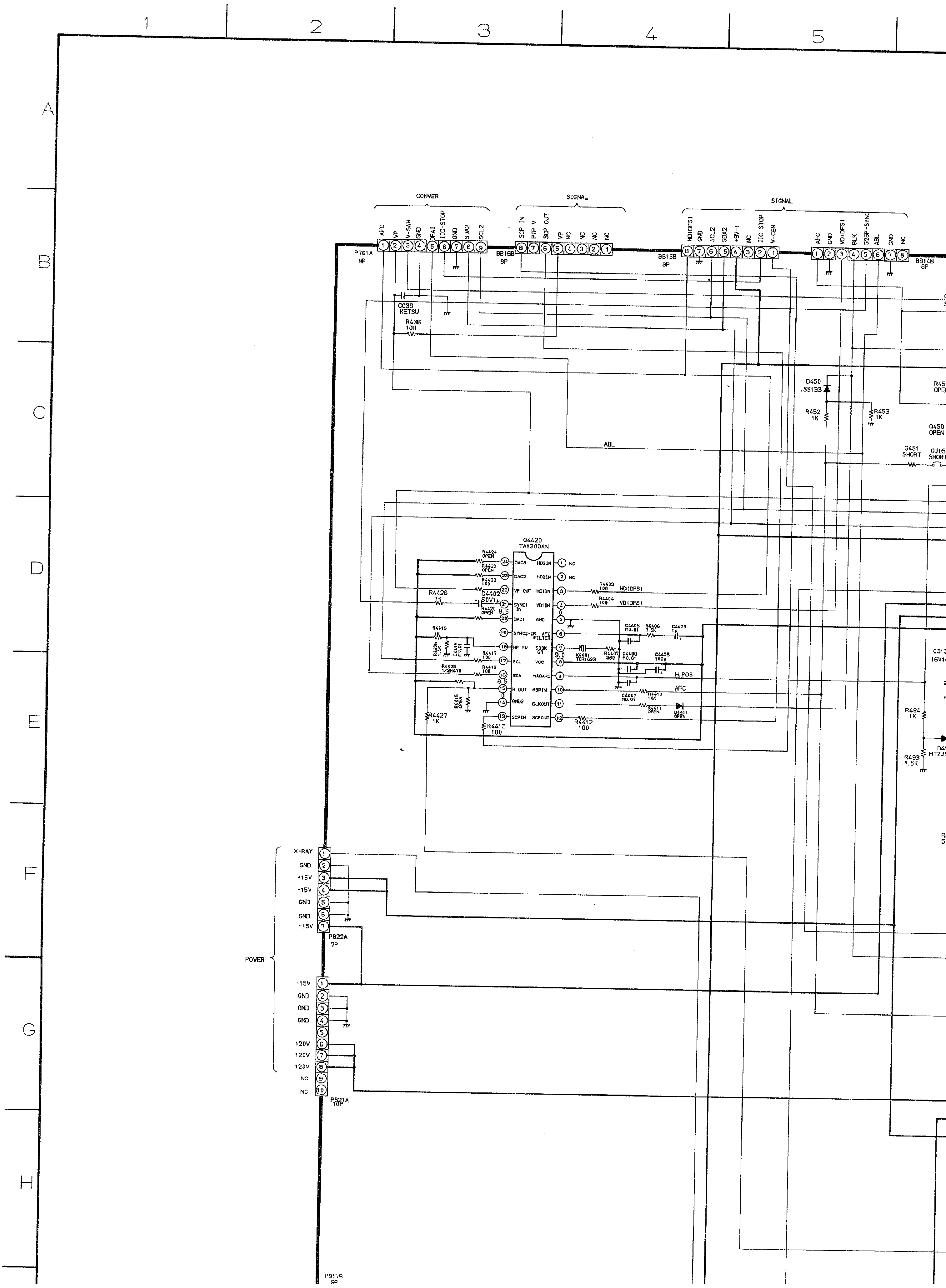
MODEL : 50D9UXE / 50D9UXH (2/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to ch
volts, colour bar signal. Voltages reading may va
2. All waveforms are taken using a wide band oscillos
3. Waveforms are taken using a standard colour bar
4. Make sure that CONTRAST and COLOUR contr
BRIGHTNESS control is almost in maximum positi
picture.

40200009


1
2
3
4
5
A
B
C
D
E
F
G
H
CONVER
SIGNAL
SIGNAL
AFC
VP
V-SAW
GND
DFAI
IIC-STOP
GND
SDA2
SCL2
P701A
9P
SCP IN
PIP V
SCP OUT
VP
NC
BB16B
8P
HD(DFS)
GND
SCL2
SDA2
+9V-1
NC
IIC-STOP
V-CEN
BB15B
8P
AFC
GND
VD(DFS)
BLK
525P-SYNC
ABL
GND
NC
BB14B
8P
CC39
KETSU
R436
100
D450
SS133
R452
1K
R453
1K
ABL
G451
SHORT
GJ05
SHORT
Q450
OPEN
Q4420
TA1300AN
R4424 OPEN
R4423 OPEN
R4422 100
R4428 1K
C4402 50V1μ
R4420 OPEN
8.5
R4418 1K
R4426 1.5K
C4418 M0.01
R4417 100
R4425 1/2R470
R4416 100
8.5
R4415 OPEN
R4427 1K
R4413 100
DAC3
DAC2
VP OUT
SYNC1 IN
DAC1
SYNC2-IN
HF SW
SCL
SDA
H OUT
GND2
SCPIN
HD2IN
HD2IN
HD1IN
VD1IN
GND
AFC FILTER
503K CR
VCC
MAGARI
FBPIN
BLKOUT
SCPOUT
NC
NC
R4403 100
HD(DFS)
R4404 100
VD(DFS)
0
C4405 M0.01
R4406 7.5K
C4425 1μ
X4401 TCR1023
R4407 360
9.0
C4408 M0.01
C4426 100μ
H.POS
AFC
C4447 M0.01
R4410 10K
R4411 OPEN
D4411 OPEN
R4412 100
0
R494 1K
R493 1.5K
X-RAY
GND
+15V
+15V
GND
GND
-15V
P822A
7P
POWER
-15V
GND
GND
GND
120V
120V
120V
NC
NC
P821A
10P
P917B
9P

VEFORMS

shown to chassis ground, line voltage 220
ling may vary ±20%.
and oscilloscope and a low capacity probe.
l colour bar signal.
LOUR controls are in mid position and
imum position. Set other controls for best

NOTES:

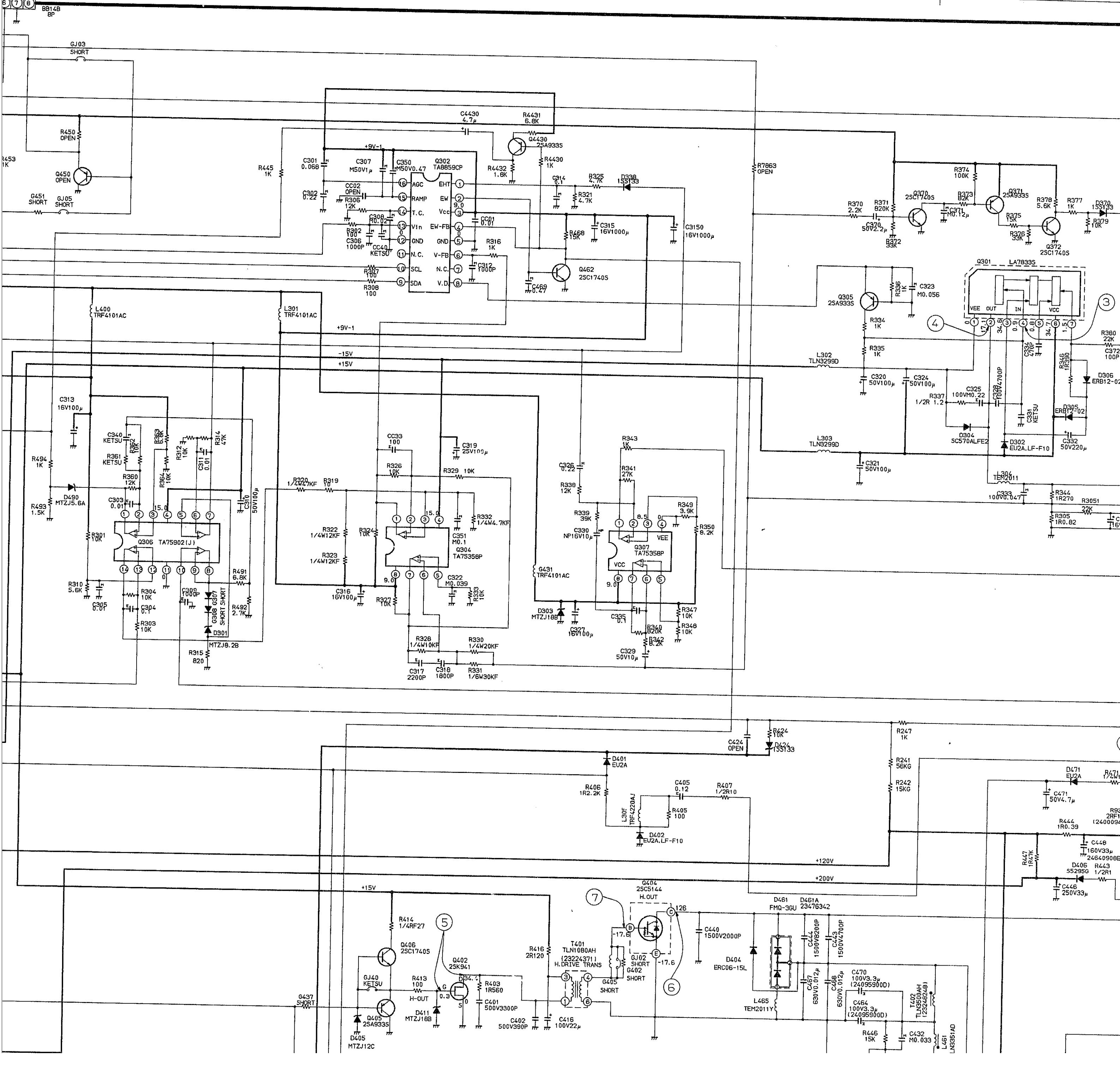
1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPRESSIO

VALUE OF F

1. Resistance i
2. Unless other
sed in μF an
3. Unless other
sed in μH, a

PB9731G	PB9731F	PB9731D
61D9UXC	50D9UXC	43D9UXC

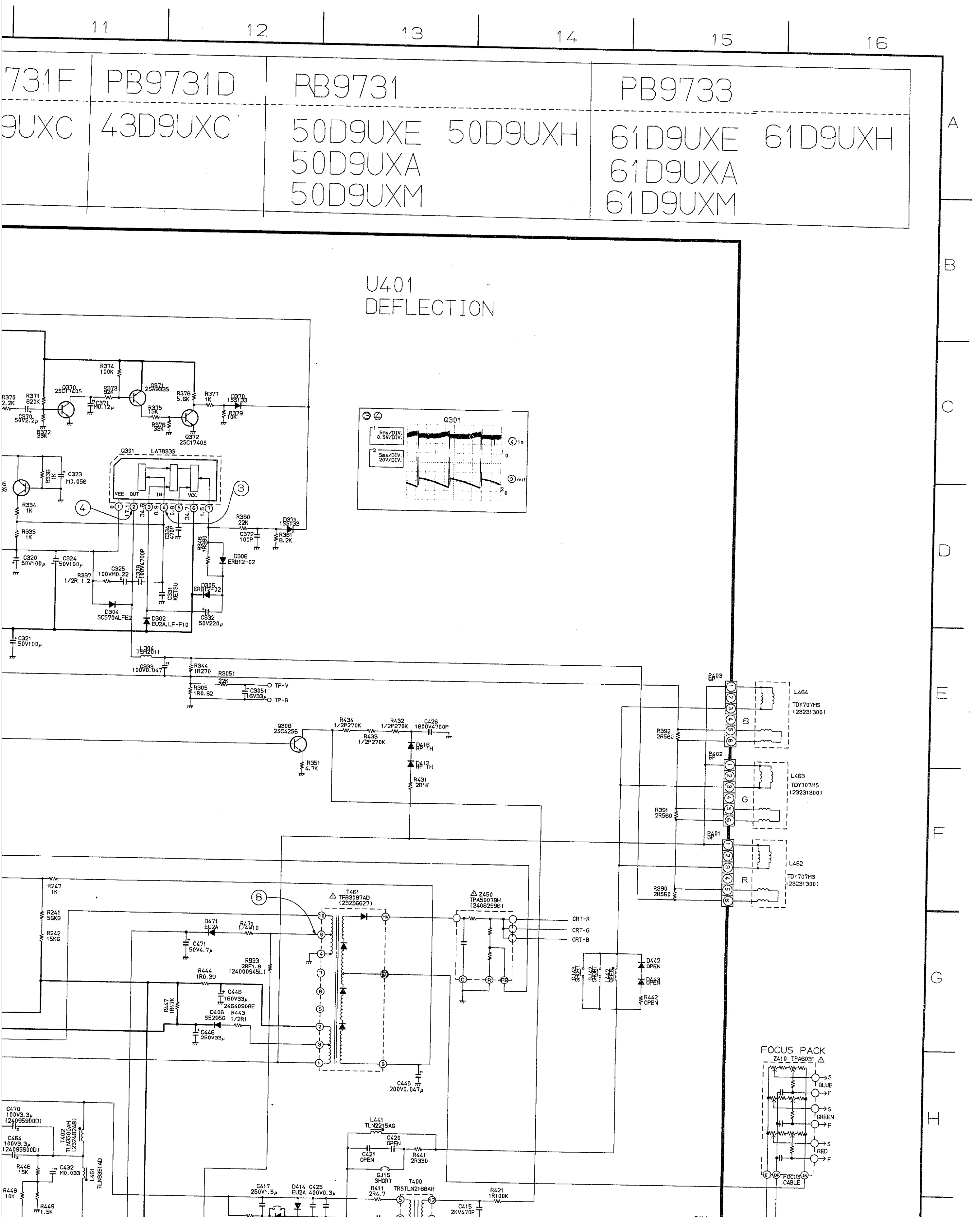


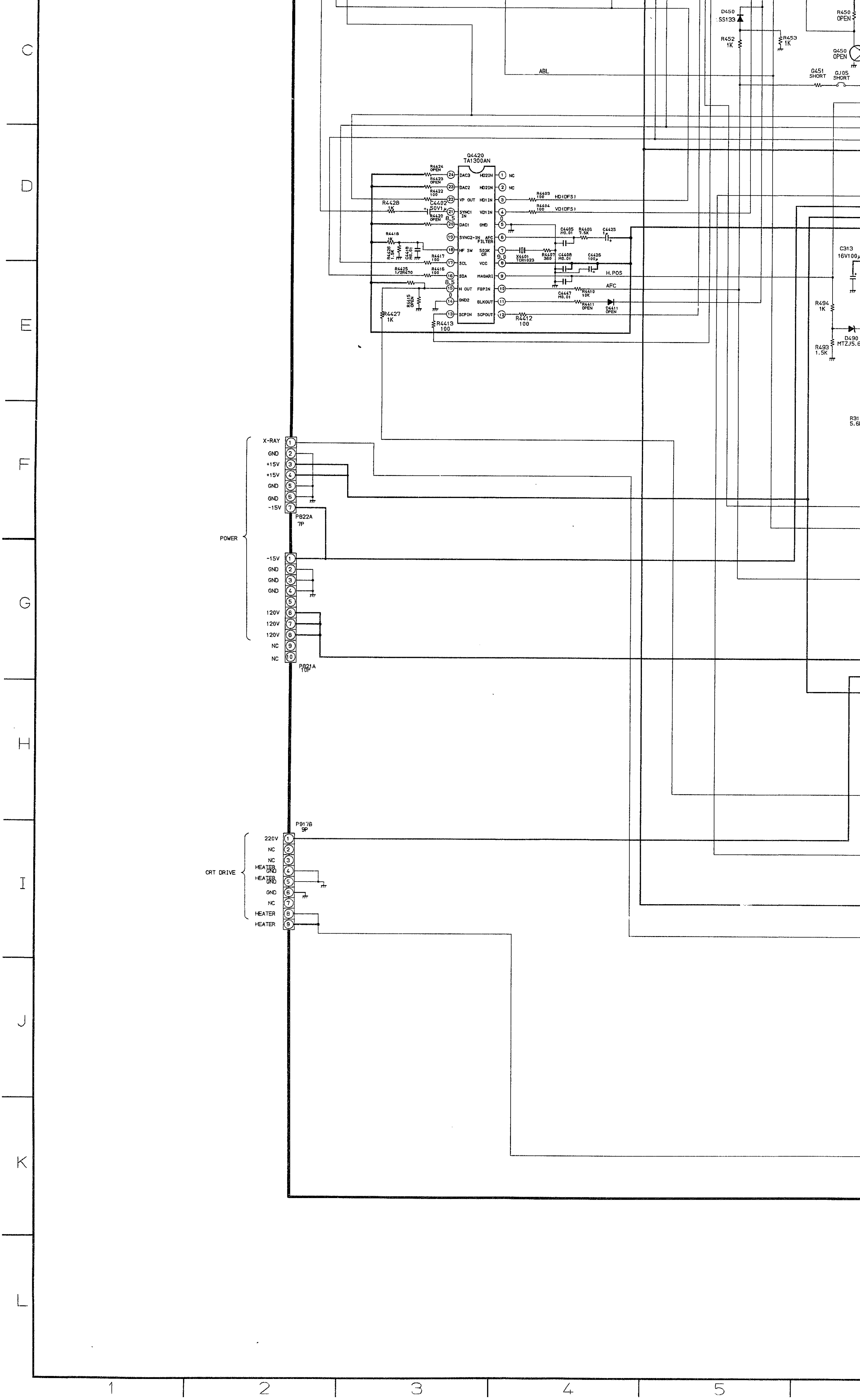
6 7 8 9 10 11
GND
NC
BB14B
GJ03 SHORT
R450 OPEN
Q450 OPEN
R453 1K
G451 SHORT
GJ05 SHORT
R445 1K
C301 0.068
C302 0.22
C307 M50V1μ
C350 M50V0.47
Q302 TA8859CP
AGC
RAMP
T.C.
Vin
GND
N.C.
SCL
SDA
EHT
EW
Vcc
EW-FB
GND
V-FB
N.C.
V.D
CC02 OPEN
R306 12K
C308 M0.02
R302 100
C306 1000P
CC40 KETSU
R307 100
R308 100
C4430 4.7μ
R4431 6.8K
Q4430 2SA933S
R4432 1.6K
R4430 1K
C314 0.1
R325 4.7K
D338 1SS133
R321 4.7K
CC01 0.01
R468 15K
C315 16V1000μ
C3150 16V1000μ
R316 1K
C312 1000P
Q462 2SC1740S
C469 0.47
R7863 OPEN
+9V-1
-15V
+15V
L400 TRF4101AC
L301 TRF4101AC
R374 100K
R370 2.2K
R371 820K
Q370 2SC1740S
R373 82K
C371 M0.12μ
Q371 2SA933S
R375 15K
R376 33K
R378 5.6K
R377 1K
D370 1SS133
R379 10K
Q372 2SC1740S
C370 50V2.2μ
R372 39K
Q301 LA7833S
VEE OUT IN VCC
Q305 2SA933S
R336 1K
C323 M0.056
R334 1K
R335 1K
L302 TLN3299D
C320 50V100μ
C324 50V100μ
R337 1/2R 1.2
C325 100VM0.22
C328 100V4700P
C331 KETSU
R346 1R390
D305 ERB12-02
D306 ERB12-02
C332 50V220μ
D304 SC570ALFE2
D302 EU2A.LF-F10
R380 22K
C372 100P
L303 TLN3299D
C321 50V100μ
L304 TEM2011
C333 100V0.047
R344 1R270
R3051 22K
R305 1R0.82
C313 16V100μ
C340 KETSU
R362 10K
R363 8.2K
R361 KETSU
R360 12K
R364 10K
R312 10K
C311 0.01
R314 47K
C303 0.01
R494 1K
D490 MTZJ5.6A
R493 1.5K
R301 10K
Q306 TA75902(J)
C310 50V100μ
R310 5.6K
C305 0.01
R304 10K
C304 0.1
R303 10K
C309 1000P
G307 SHORT
G308 SHORT
D301 MTZJ8.2B
R491 6.8K
R492 2.7K
R315 820
CC33 100
C319 25V100μ
R326 10K
R329 10K
R320 1/4W47KF
R319 10
R322 1/4W12KF
R323 1/4W12KF
R324 10K
C351 M0.1
Q304 TA75358P
R332 1/4W4.7KF
C316 16V100μ
R327 10K
C322 M0.039
R333 10K
R328 1/4W10KF
R330 1/4W20KF
C317 2200P
C318 1800P
R331 1/6W30KF
R343 1K
C326 0.22
R341 27K
R338 12K
R339 39K
C330 NP16V10μ
R349 3.9K
R350 8.2K
Q307 TA75358P
G431 TRF4101AC
D303 MTZJ18B
C327 16V100μ
C335 0.1
R340 820K
R342 8.2K
R347 10K
R348 10K
C329 50V10μ
R247 1K
C424 OPEN
R424 10K
D424 1SS133
D401 EU2A
R241 56KG
R242 15KG
R406 1R2.2K
C405 0.12
R407 1/2R10
L305 TRF4220AJ
R405 100
D402 EU2A.LF-F10
+120V
+200V
D471 EU2A
C471 50V4.7μ
R444 1R0.39
C448 160V33μ
R447 1R47K
D406 S5295G
R443 1/2R1
C446 250V33μ
+15V
R414 1/4RF27
Q406 2SC1740S
Q402 2SK941
GJ40 KETSU
R413 100
H-OUT
R403 1R560
C401 500V3300P
D411 MTZJ18B
Q405 2SA933S
D405 MTZJ12C
G437 SHORT
C402 500V390P
R416 2R120
T401 TLN1080AH (23224371) H.DRIVE TRANS
C416 100V22μ
G405 SHORT
GJ02 SHORT
G402 SHORT
Q404 2SC5144 H.OUT
-17.8
-17.6
126
C440 1500V2000P
D461 FMQ-3GU
D461A 23476342
C444 1500V8200P
C443 1500V4700P
D404 ERC06-15L
C467 630V0.012μ
C468 630V0.012μ
C470 100V3.3μ (24095900D)
C464 100V3.3μ (24095900D)
L465 TEM2011Y
T402 TLN2050AH
R446 15K
C432 M0.033
L461 LN3351AD

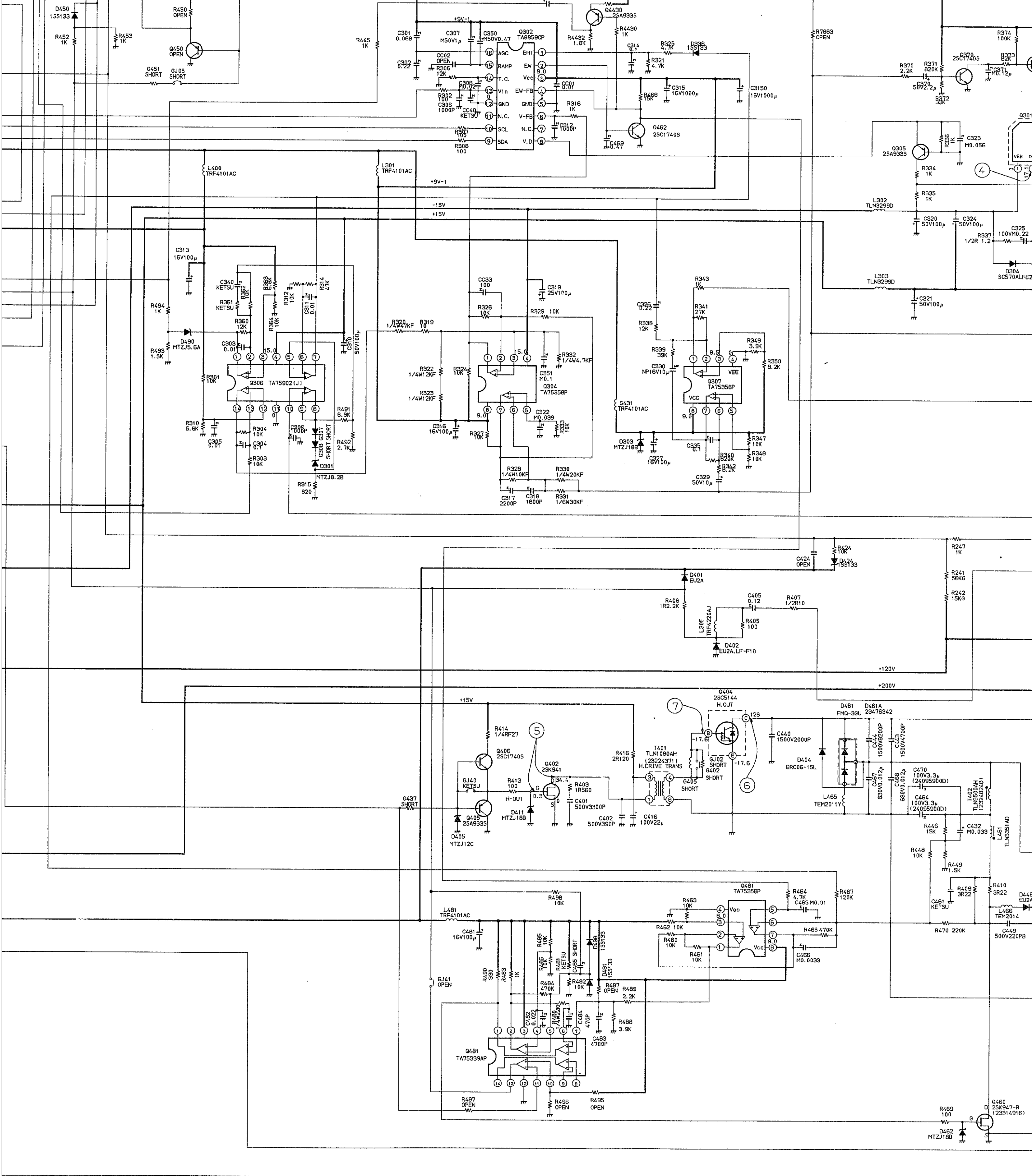
atic dia-

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.


11
12
13
14
15
16
A
B
C
D
E
F
G
H
731F
9UXC
PB9731D
43D9UXC
RB9731
50D9UXE 50D9UXH
50D9UXA
50D9UXM
PB9733
61D9UXE 61D9UXH
61D9UXA
61D9UXM
U401
DEFLECTION
R374 100K
R373 82K
Q370 2SC1740S
Q371 2SA933S
R378 5.6K
R377 1K
D370 1SS133
R370 2.2K
R371 820K
C371 M0.12μ
R375 15K
R379 10K
C370 50V2.2μ
R372 33K
R376 33K
Q372 2SC1740S
Q301 LA7833S
VEE OUT IN VCC
R336 1K
C323 M0.056
R334 1K
R335 1K
④
③
0
17.1
34.6
0.9
0.8
34.7
1.5
C334 470P
R380 22K
D371 1SS133
C372 100P
R381 8.2K
R346 1R390
D306 ERB12-02
C320 50V100μ
C324 50V100μ
C325 100VM0.22
C328 100V4700P
R337 1/2R 1.2
C331 KETSU
D305 ERB12-02
D304 SC570ALFE2
D302 EU2A.LF-F10
C332 50V220μ
C321 50V100μ
L304 TEM2011
C333 100V0.047
R344 1R270
R3051 22K
R305 1R0.82
C3051 16V33μ
TP-V
TP-G
③④
Q301
5ms/DIV. 0.5V/DIV.
5ms/DIV. 20V/DIV.
④in
②out
Q308 2SC4256
R434 1/2P270K
R432 1/2P270K
C426 1800V4700P
R433 1/2P270K
D416 RP 1H
D413 RP 1H
R351 4.7K
R431 2R1K
P403 6P
L464 TDY707MS (23231300)
B
R392 2R560
P402 6P
L463 TDY707MS (23231300)
G
R391 2R560
P401 6P
L462 TDY707MS (23231300)
R
R390 2R560
R247 1K
R241 56KG
R242 15KG
⑧
T461 TFB3087AD (23236627)
Z450 TPA5007BH (24082996)
D471 EU2A
R471 1/4W10
C471 50V4.7μ
R933 2RF1.8 (24000945L)
HV
CRT-R
CRT-G
CRT-B
R444 1R0.39
C448 160V33μ 24640908E
R447 1R47K
D406 S5295G
R443 1/2R1
C446 250V33μ
GJ43 SHORT
GJ42 SHORT
L442 OPEN
D442 OPEN
D443 OPEN
R442 OPEN
C445 200V0.047μ
FOCUS PACK
Z410 TPA6031
S BLUE F
S GREEN F
S RED F
E DF FOCUS CABLE IN
C470 100V3.3μ (24095900D)
C464 100V3.3μ (24095900D)
T402 TLN3500AH (23248248)
L461 TLN3351AD
R446 15K
C432 M0.033
R448 10K
R449 1.5K
L441 TLN2215AG
C420 OPEN
C421 OPEN
R441 2R330
GJ15 SHORT
C417 250V1.5μ
D414 EU2A
C425 400V0.3μ
R411 2R4.7
T400 TRSTLN2168AH
R421 1R100K
C415 2KV470P


C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
ABL
D450
SS133
R452
1K
R453
1K
R450
OPEN
Q450
OPEN
G451
SHORT
GJ05
SHORT
Q4420
TA1300AN
R4424
OPEN
R4423
OPEN
R4422
100
R4428
1K
C4402
50V1μ
R4420
OPEN
8.5
R4418
1K
R4426
1.5K
C4419
M0.01
R4417
100
R4425
1/2R470
R4416
100
8.5
0
R4415
OPEN
R4427
1K
R4413
100
24 DAC3
23 DAC2
22 VP OUT
21 SYNC1 IN
20 DAC1
19 SYNC2-IN
18 HF SW
17 SCL
16 SDA
15 H OUT
14 GND2
13 SCPIN
1 HD2IN NC
2 HD2IN NC
3 HD1IN
4 VD1IN
5 GND
6 AFC FILTER
7 503K CR
8 VCC
9 MAGARI
10 FBPIN
11 BLKOUT
12 SCPOUT
0
9.0
R4403
100
HD(DFS)
R4404
100
VD(DFS)
C4405
M0.01
R4406
7.5K
C4425
1μ
X4401
TCR1023
R4407
360
C4408
M0.01
C4426
100μ
H.POS
AFC
C4447
M0.01
R4410
10K
R4411
OPEN
D4411
OPEN
R4412
100
C313
16V100μ
R494
1K
D490
MTZJ5.6
R493
1.5K
R31
5.6
POWER
X-RAY 1
GND 2
+15V 3
+15V 4
GND 5
GND 6
-15V 7
P822A
7P
-15V 1
GND 2
GND 3
GND 4
5
120V 6
120V 7
120V 8
NC 9
NC 10
P821A
10P
P917B
9P
CRT DRIVE
220V 1
NC 2
NC 3
HEATER GND 4
HEATER GND 5
GND 6
NC 7
HEATER 8
HEATER 9


Q302 TA8859CP
AGC
RAMP
T.C.
Vin
GND
N.C.
SCL
SDA
EHT
EW
Vcc
EW-FB
V-FB
V.D.
+9V-1
-15V
+15V
+120V
+200V
Q306 TA75902(J)
Q304 TA75358P
Q307 TA75358P
Q461 TA75358P
Q481 TA75339AP
Q404 2SC5144 H.OUT
Q402 2SK941
Q406 2SC1740S
Q405 2SA933S
Q462 2SC1740S
Q4430 2SA933S
Q450 OPEN
Q370 2SC1740S
Q305 2SA933S
Q460 2SK947-R (23314916)
T401 TLN1080AH (23224371) H.DRIVE TRANS
T402 TLN3500AH (23248248)
L461 TLN3351AD
L465 TEM2011Y
L466 TEM2014
L302 TLN3299D
L303 TLN3299D
L400 TRF4101AC
L301 TRF4101AC
L481 TRF4101AC
G431 TRF4101AC
L30 TRF4220AJ
D401 EU2A
D402 EU2A.LF-F10
D404 ERC06-15L
D461 FMQ-3GU
D461A 23476342
D304 SC570ALFE2
D490 MTZJ5.6A
D301 MTZJ8.2B
D303 MTZJ18B
D411 MTZJ18B
D405 MTZJ12C
D462 MTZJ18B
D424 1SS133
D338 1SS133
D450 1SS133
C440 1500V2000P
C444 1500V8200P
C443 1500V4700P
C401 500V3300P
C402 500V390P
C416 100V22μ
C3150 16V1000μ
C315 16V1000μ
G437 SHORT
GJ41 OPEN
GJ40 KETSU
GJ02 SHORT
G402 SHORT
G405 SHORT
G451 SHORT
GJ05 SHORT
H-OUT
126
-17.6
34.4
9.0
15.0
8.5
④
⑤
⑥
⑦

✻ KETSU means to open the cir

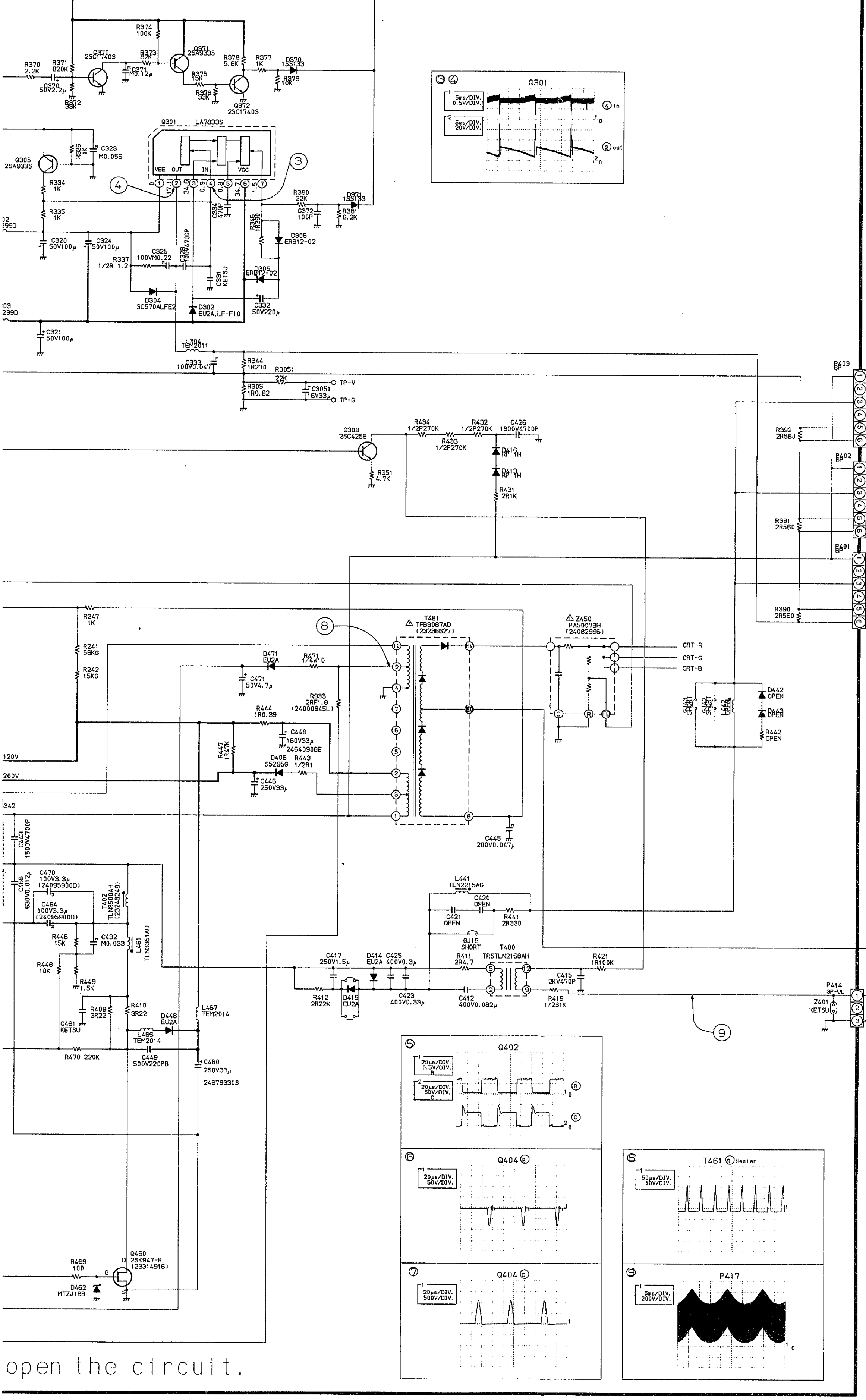
43D9UXC 61D9U

50D9UXC 61D9U

61D9UXC 61D9U

61D9U

5 6 7 8 9 10 11


Q301 LA7833S
Q370 2SC1740S
Q371 2SA933S
Q372 2SC1740S
Q305 2SA933S
Q308 2SC4256
R374 100K
R370 2.2K
R371 820K
R373 82K
R375 15K
R376 33K
R378 5.6K
R377 1K
D370 1SS133
R379 10K
C323 M0.056
R334 1K
R335 1K
C320 50V100μ
C324 50V100μ
C325 100VM0.22
C328 100V4700P
R337 1/2R 1.2
D304 SC570ALFE2
D302 EU2A.LF-F10
C331 KETSU
D305 ERB12-02
D306 ERB12-02
C332 50V220μ
R380 22K
C372 100P
D371 1SS133
R381 8.2K
R346 1R390
C321 50V100μ
L304 TEM2011
C333 100V0.047
R344 1R270
R3051 22K
C3051 16V33μ
TP-V
TP-G
R305 1R0.82
R434 1/2P270K
R432 1/2P270K
C426 1800V4700P
R433 1/2P270K
D416 RF 1H
D413 RF 1H
R431 2R1K
R351 4.7K
Q301
5ms/DIV. 0.5V/DIV.
5ms/DIV. 20V/DIV.
④ in
② out
P403 6P
L464 TDY707MS (23231300)
R392 2R560
P402 6P
L463 TDY707MS (23231300)
R391 2R560
P401 6P
L462 TDY707MS (23231300)
R390 2R560
B
G
R
R247 1K
R241 56KG
R242 15KG
T461 TFB3087AD (23236627)
Z450 TPA5007BH (24082996)
CRT-R
CRT-G
CRT-B
D471 EU2A
R471 1/2W10
C471 50V4.7μ
R933 2RF1.8 (24000945L)
R444 1R0.39
C448 160V33μ 2464090BE
R447 1R47K
D406 S5295G
R443 1/2R1
C446 250V33μ
C445 200V0.047μ
GJ43 SHORT
D442 OPEN
D443 OPEN
R442 OPEN
120V
200V
C443 1500V4700P
C470 100V3.3μ (24095900D)
C464 100V3.3μ (24095900D)
T402 TLN3500AH (23248248)
R446 15K
C432 M0.033
L461 TLN3351AD
R448 10K
R449 1.5K
R409 3R22
R410 3R22
D448 EU2A
C461 KETSU
L467 TEM2014
L466 TEM2014
R470 220K
C449 500V220PB
C460 250V33μ 246793305
L441 TLN2215AG
C420 OPEN
C421 OPEN
R441 2R330
GJ15 SHORT
T400 TRSTLN2168AH
C417 250V1.5μ
D414 EU2A
C425 400V0.3μ
R411 2R4.7
R421 1R100K
C415 2KV470P
R412 2R22K
D415 EU2A
C423 400V0.33μ
C412 400V0.082μ
R419 1/2S1K
P414 3P-UL
Z401 KETSU
FOCUS PACK
Z410 TPA6031
BLUE
GREEN
RED
S
F
FOCUS CABLE
Q402
20μs/DIV. 0.5V/DIV.
20μs/DIV. 50V/DIV.
Q404 Ⓑ
20μs/DIV. 50V/DIV.
T461 ⑨ Heater
50μs/DIV. 10V/DIV.
Q404 Ⓒ
20μs/DIV. 500V/DIV.
P417
5ms/DIV. 200V/DIV.
R469 10Ω
D462 MTZJ16B
Q460 2SK947-R (23314916)
open the circuit.

C
D
E
F
G
H
I
J
K
L

C 61D9UXE 50D9UXE
C 61D9UXA 50D9UXA
C 61D9UXM 50D9UXM
61D9UXH 50D9UXH

DEFLECTION
50D9U SERIES

PK3266

11 12 13 14 15 16

SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (3/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

40200009

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

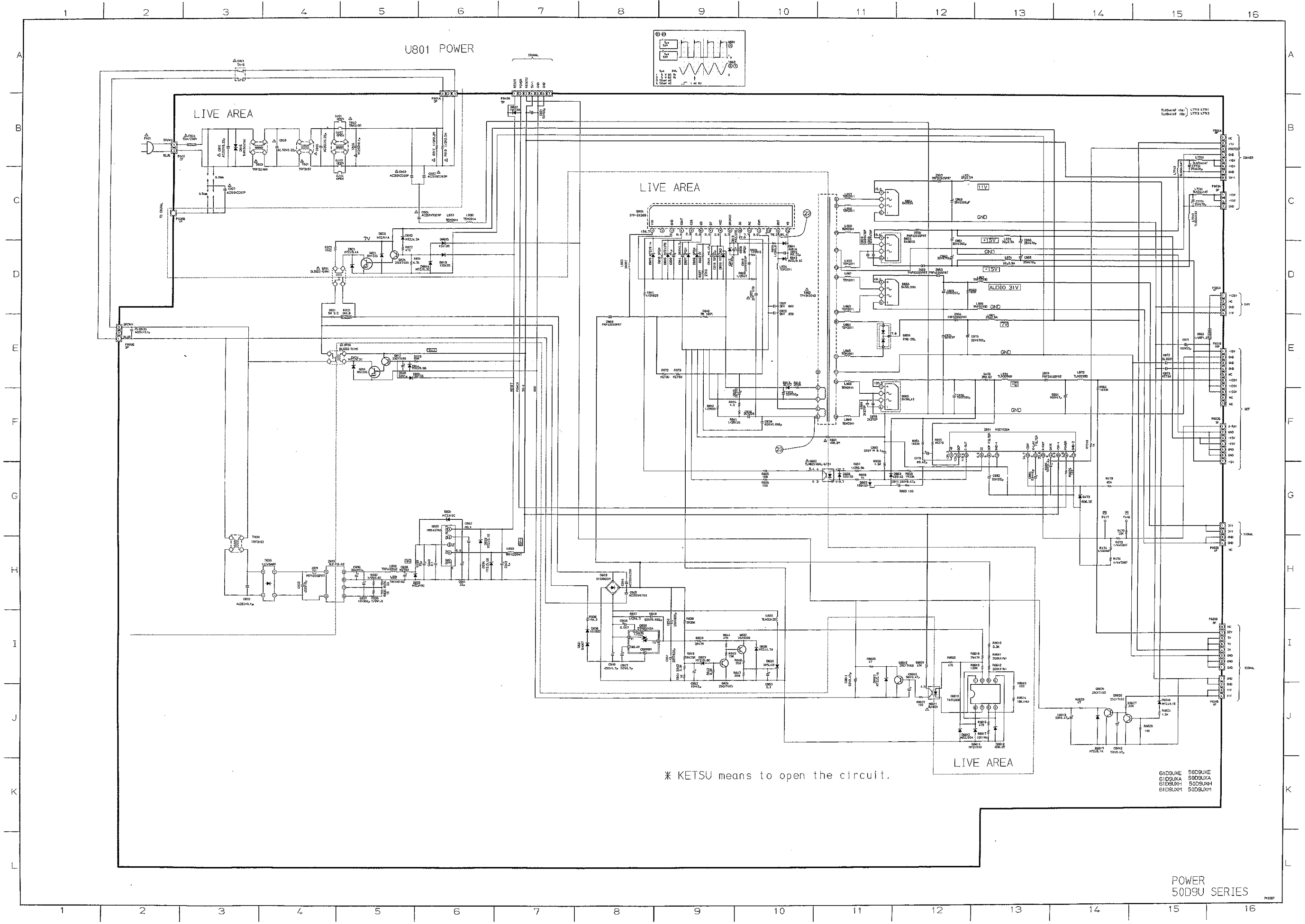
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ● : Solder links.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.


U801 POWER
LIVE AREA
LIVE AREA
LIVE AREA
SIGNAL
11V
+15V
GND
-15V
AUDIO 31V
7V
GND
GND
7V
61D9UXE 50D9UXE
61D9UXA 50D9UXA
61D9UXH 50D9UXH
61D9UXM 50D9UXM
POWER
50D9U SERIES
PK3267
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
L

※ KETSU means to open the circuit.

SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (3/7)

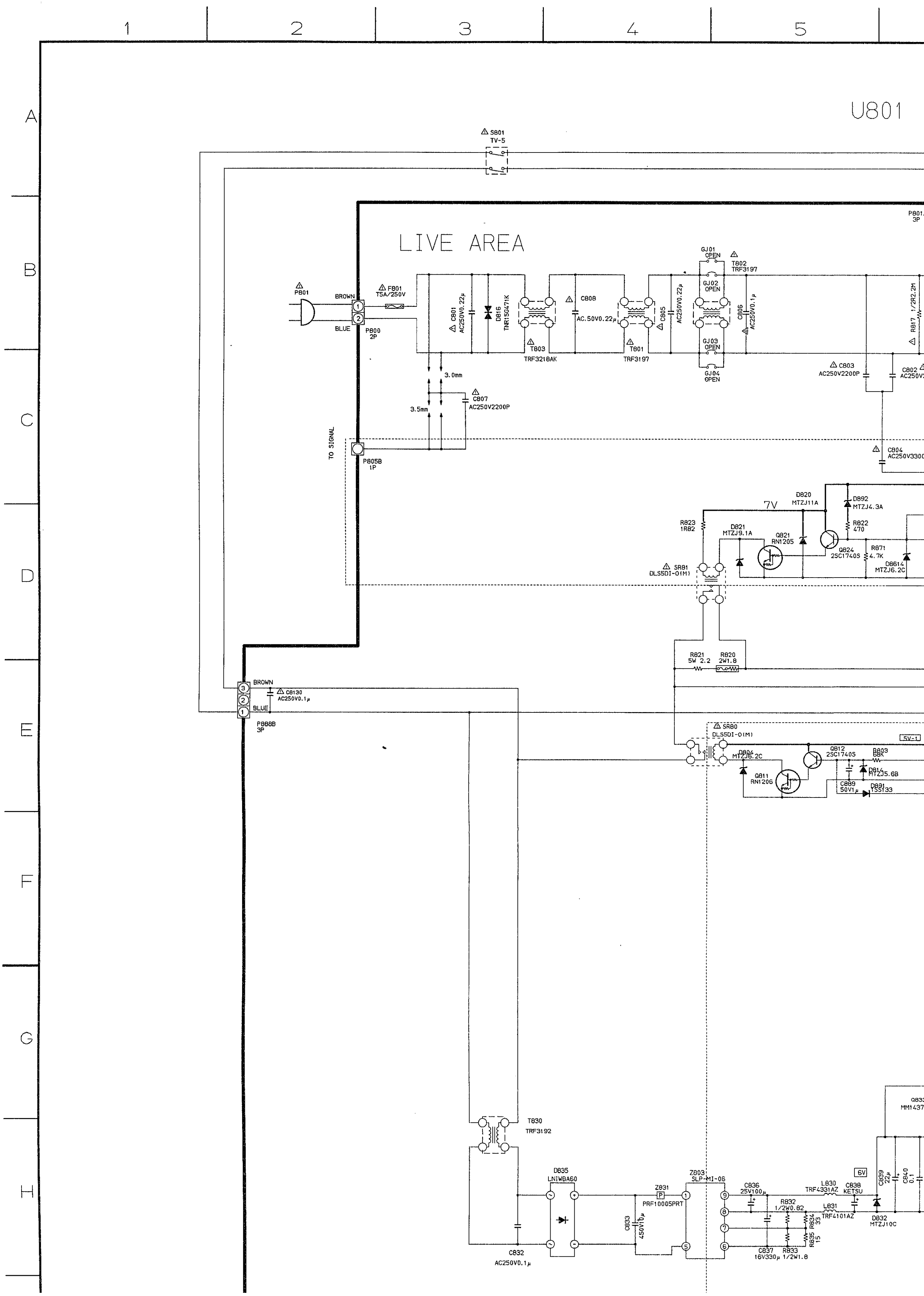
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to ch
volts, colour bar signal. Voltages reading may va
2. All waveforms are taken using a wide band oscillos
3. Waveforms are taken using a standard colour bar
4. Make sure that CONTRAST and COLOUR contr
BRIGHTNESS control is almost in maximum positi
picture.

40200009

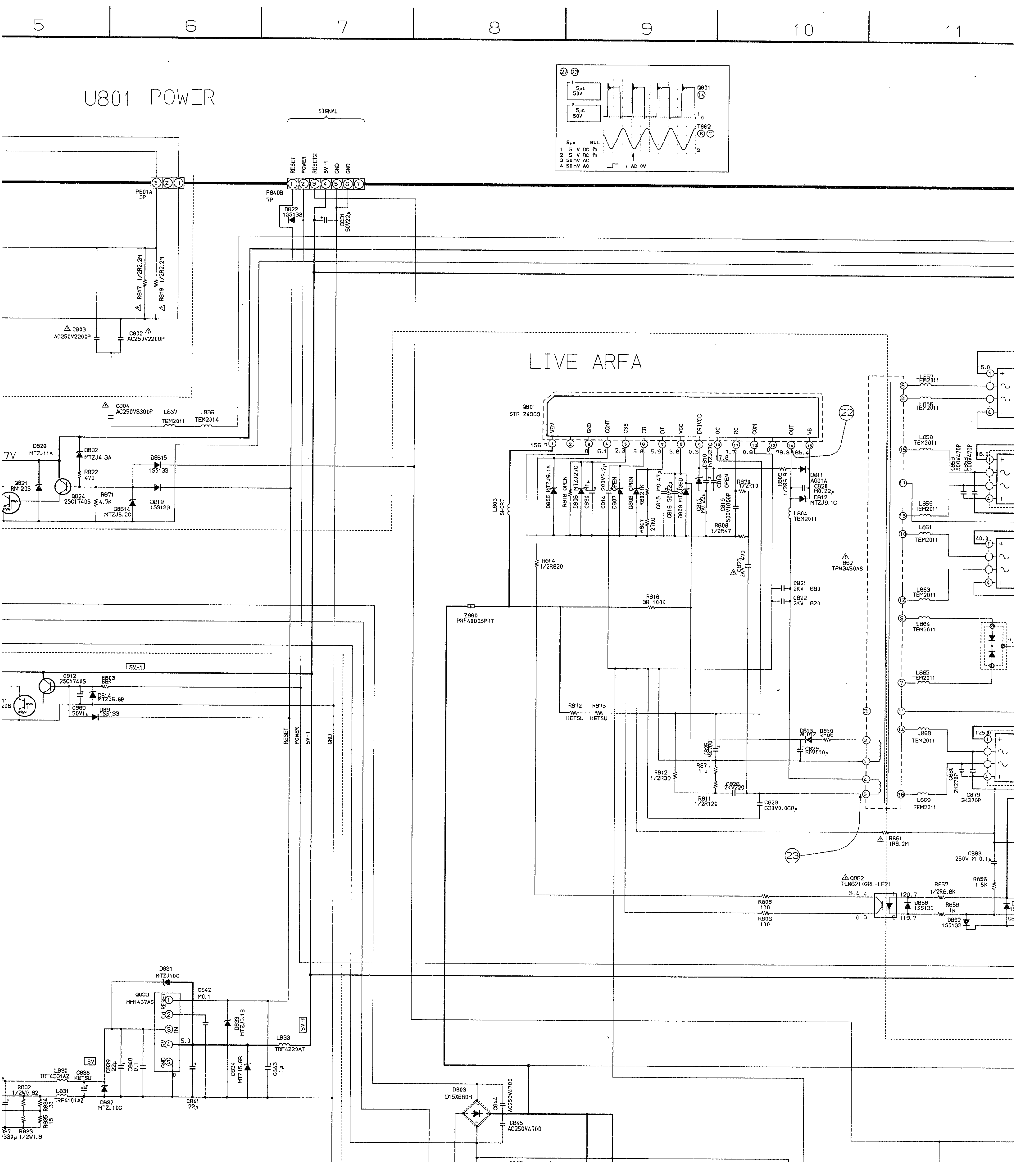

1
2
3
4
5
A
B
C
D
E
F
G
H
U801
⚠ S801
TV-5
LIVE AREA
⚠ P801
BROWN
BLUE
P800
2P
⚠ F801
T5A/250V
⚠ C801
AC250V0.22μ
D816
TNR15G471K
⚠ T803
TRF3218AK
⚠ C808
AC.50V0.22μ
⚠ T801
TRF3197
⚠ C805
AC250V0.22μ
GJ01
OPEN
GJ02
OPEN
GJ03
OPEN
GJ04
OPEN
⚠ T802
TRF3197
⚠ C806
AC250V0.1μ
P801
3P
⚠ R817 1/2R2.2M
⚠ C803
AC250V2200P
C802 ⚠
AC250V
3.0mm
3.5mm
⚠ C807
AC250V2200P
TO SIGNAL
P805B
1P
⚠ C804
AC250V330
7V
D820
MTZJ11A
D892
MTZJ4.3A
R823
1R82
D821
MTZJ9.1A
Q821
RN1205
Q824
2SC1740S
R822
470
R871
4.7K
D8614
MTZJ6.2C
⚠ SR81
DLS5DI-0(M)
R821
5W 2.2
R820
2W1.8
BROWN
BLUE
⚠ C8130
AC250V0.1μ
P888B
3P
⚠ SR80
DLS5DI-0(M)
5V-1
D804
MTZJ6.2C
Q811
RN1206
Q812
2SC1740S
R803
68K
D814
MTZJ5.6B
C889
50V1μ
D891
1SS133
Q833
MM1437
T830
TRF3192
D835
LNIWBA60
C832
AC250V0.1μ
Z831
P
PRF10005PRT
C833
450V10μ
Z803
SLP-MI-06
1
5
9
8
7
6
C836
25V100μ
R832
1/2W0.82
C837
16V330μ
R833
1/2W1.8
R834
33
R835
15
L830
TRF4331AZ
L831
TRF4101AZ
C838
KETSU
6V
C839
22μ
C840
0.1
D832
MTZJ10C

TAGES AND WAVEFORMS

VM from point shown to chassis ground, line voltage 220
l. Voltages reading may vary ±20%.
n using a wide band oscilloscope and a low capacity probe.
using a standard colour bar signal.
TRAST and COLOUR controls are in mid position and
is almost in maximum position. Set other controls for best

NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⬬ : Solder links.

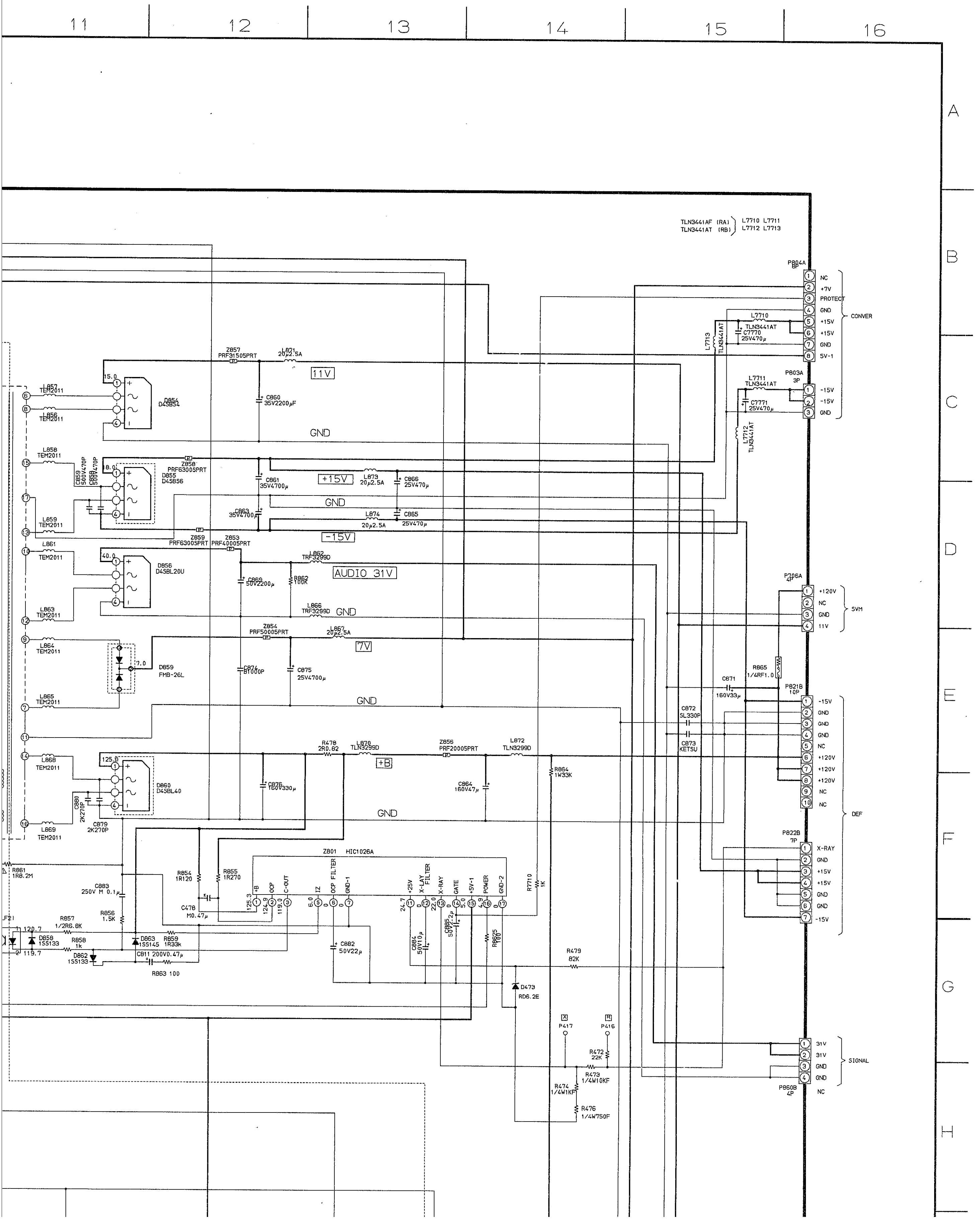

5
6
7
8
9
10
11
U801 POWER
SIGNAL
RESET
POWER
RESET2
5V-1
GND
GND
P801A 3P
P840B 7P
D822 1SS133
C831 50V22μ
R817 1/2R2.2M
R819 1/2R2.2M
C803 AC250V2200P
C802 AC250V2200P
C804 AC250V3300P
L837 TEM2011
L836 TEM2014
D820 MTZJ11A
D892 MTZJ4.3A
R822 470
Q821 RN1205
Q824 2SC1740S
R871 4.7K
D8614 MTZJ6.2C
D8615 1SS133
D819 1SS133
LIVE AREA
Q801 STR-Z4369
VIN
GND
CONT
CSS
CD
DT
VCC
DRIVCC
OC
RC
COM
OUT
VB
156.7
L803 SHORT
R814 1/2R820
R816 3R 100K
Z860 PRF4000SPRT
R872 KETSU
R873 KETSU
D805 MTZJ9.1A
R818 OPEN
D806 MTZJ27C
C814 200V2.2μ
D807 OPEN
D808 OPEN
R802 1K
R807 27KG
C815 M0.47μ
C816 50V22μ
D809 MTZJ6D
C817 M0.22μ
D810 MTZJ27C
C818 OPEN
C819 500V1000P
R870 1/2R10
R808 1/2R47
R809 1/2R6.8
D811 AG01A
C820 M0.22μ
D812 MTZJ9.1C
L804 TEM2011
C823 2KV470
C821 2KV 680
C822 2KV 820
T862 TPW3450AS
D813 AG01Z
R810 2R68
C829 50V100μ
C825 M4700
R87. 1J
R812 1/2R39
C826 2KV220
R811 1/2R120
C828 630V0.068μ
R861 1R8.2M
Q862 TLN621(GRL-LF2)
R805 100
R806 100
D858 1SS133
R857 1/2R6.8K
R858 1k
D862 1SS133
R856 1.5K
C883 250V M 0.1μ
L857 TEM2011
L856 TEM2011
L858 TEM2011
C859 500V470P
C860 500V470P
L859 TEM2011
L861 TEM2011
L863 TEM2011
L864 TEM2011
L865 TEM2011
L868 TEM2011
L869 TEM2011
C880 2K270P
C879 2K270P
15.0
18.0
40.0
125.0
5V-1
Q812 2SC1740S
R803 68K
D814 MTZJ5.6B
C889 50V1μ
D891 1SS133
D831 MTZJ10C
Q833 MM1437AS
C842 M0.1
D833 MTZJ5.1B
D834 MTZJ5.6B
C843 1μ
L833 TRF4220AT
6V
C838 KETSU
L830 TRF4331AZ
C839 22μ
C840 0.1
C841 22μ
D832 MTZJ10C
L831 TRF4101AZ
R832 1/2W0.82
R834 33
R835 15
R833 1/2W1.8
D803 D15XB60H
C844 AC250V4700
C845 AC250V4700
5μs 50V
Q801 ⑭
T862 ⑥⑦
5μs BWL
1 5 V DC
2 5 V DC
3 50 mV AC
4 50 mV AC
1 AC 0V
㉒
㉓

dia-

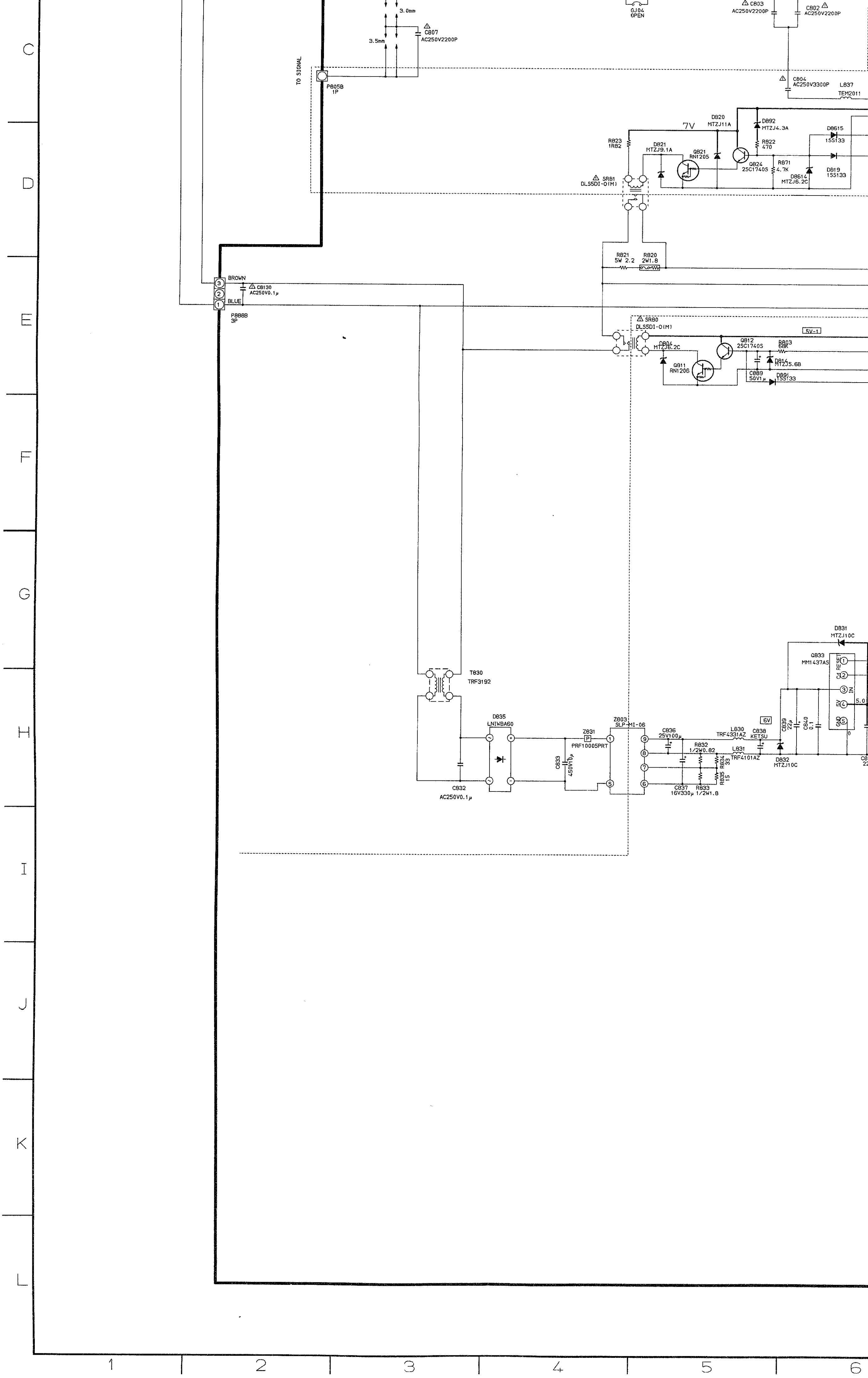
EXPRESSION

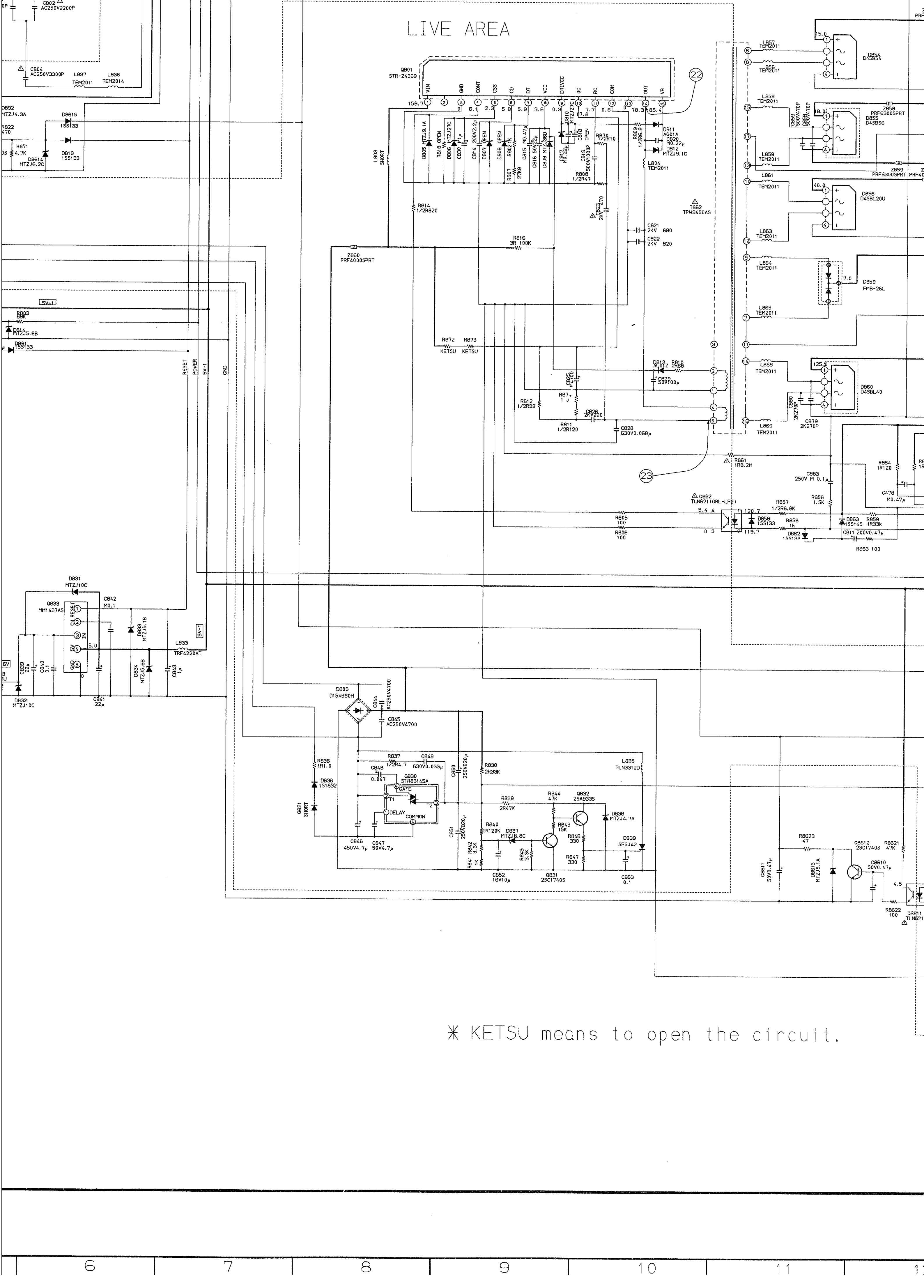
VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

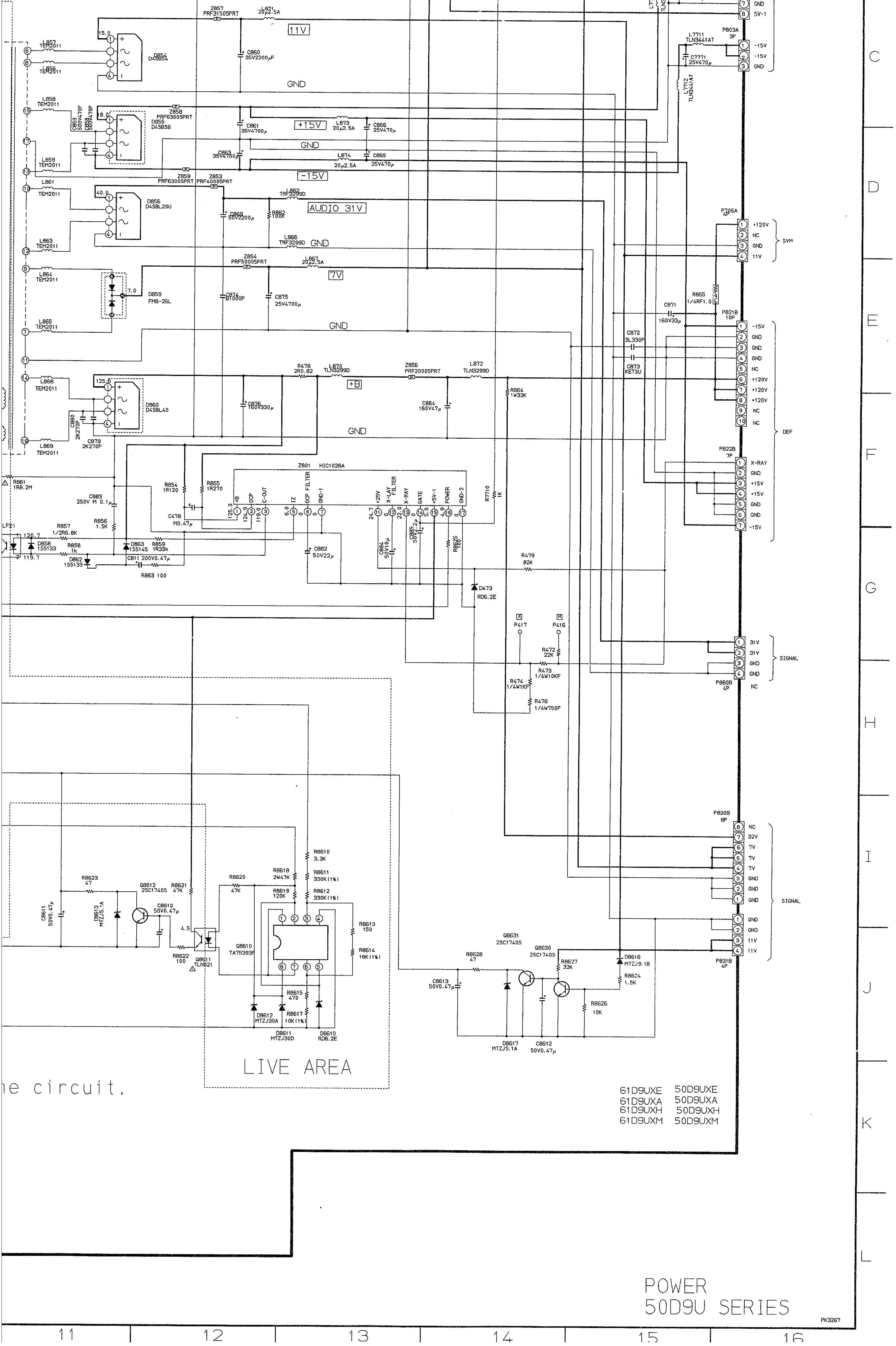


11
12
13
14
15
16
A
B
C
D
E
F
G
H
TLN3441AF (RA) L7710 L7711
TLN3441AT (RB) L7712 L7713
P804A 8P
NC
+7V
PROTECT
GND
+15V
+15V
GND
SV-1
CONVER
L7710
TLN3441AT
C7770 25V470μ
L7713 TLN3441AT
P803A 3P
L7711 TLN3441AT
-15V
-15V
GND
C7771 25V470μ
L7712 TLN3441AT
Z857 PRF31505PRT
L871 20μ2.5A
11V
C860 35V2200μF
D854 D4SB54
L857 TEM2011
L856 TEM2011
15.0
GND
L858 TEM2011
C859 500V470P
C858 500V470P
18.0
Z858 PRF6300SPRT
D855 D4SB56
C861 35V4700μ
+15V
L873 20μ2.5A
C866 25V470μ
GND
C863 35V4700μ
L874 20μ2.5A
C865 25V470μ
-15V
L859 TEM2011
Z859 PRF6300SPRT
Z853 PRF4000SPRT
L861 TEM2011
40.0
D856 D4SBL20U
L862 TRF3299D
C869 50V2200μ
R862 100K
AUDIO 31V
P706A 4P
+120V
NC
GND
11V
SVM
L866 TRF3299D
GND
L863 TEM2011
Z854 PRF5000SPRT
L867 20μ2.5A
7V
L864 TEM2011
7.0
D859 FMB-26L
C874 B1000P
C875 25V4700μ
R865 1/4RF1.0
C871 160V33μ
P821B 10P
L865 TEM2011
GND
-15V
GND
GND
GND
NC
+120V
+120V
+120V
NC
NC
DEF
C872 SL330P
C873 KETSU
R478 2R0.82
L870 TLN3299D
Z856 PRF2000SPRT
L872 TLN3299D
L868 TEM2011
125.0
+B
R864 1W33K
C876 160V330μ
C864 160V47μ
D860 D4SBL40
C880 2K270P
C879 2K270P
L869 TEM2011
GND
P822B 7P
X-RAY
GND
+15V
+15V
GND
GND
-15V
Z801 HIC1026A
+B
OCP
C-OUT
IZ
OCP FILTER
GND-1
+25V
X-LAY FILTER
X-RAY
GATE
+5V-1
POWER
GND-2
R7710 1K
R861 1R8.2M
R854 1R120
R855 1R270
C883 250V M 0.1μ
C478 M0.47μ
125.3
124.9
119.0
6.0
0
0
24.7
0
22.0
0
5.0
4.9
0
R856 1.5K
R857 1/2R6.8K
120.7
119.7
D858 1SS133
R858 1k
D862 1SS133
D863 1SS145
R859 1R33k
C811 200V0.47μ
R863 100
C882 50V22μ
C884 50V10μ
C885 50V2.2μ
R8625 100
R479 82K
D473 RD6.2E
P417
P416
R472 22K
R473 1/4W10KF
R474 1/4W1KF
R476 1/4W750F
31V
31V
GND
GND
NC
SIGNAL
P860B 4P


C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6
3.0mm
3.5mm
⚠ C807
AC250V2200P
TO SIGNAL
P805B
1P
GJ04
OPEN
⚠ C803
AC250V2200P
C802 ⚠
AC250V2200P
⚠ C804
AC250V3300P
L837
TEM2011
7V
D820
MTZJ11A
D892
MTZJ4.3A
D8615
1SS133
R823
1R82
D821
MTZJ9.1A
Q821
RN1205
R822
470
Q824
2SC1740S
R871
4.7K
D8614
MTZJ6.2C
D819
1SS133
⚠ SR81
DLS5DI-O(M)
R821
5W 2.2
R820
2W1.8
BROWN
BLUE
⚠ C8130
AC250V0.1μ
P888B
3P
⚠ SR80
DLS5DI-O(M)
5V-1
D804
MTZJ6.2C
Q812
2SC1740S
R803
68K
D814
MTZJ5.6B
Q811
RN1206
C889
50V1μ
D891
1SS133
D831
MTZJ10C
Q833
MM1437AS
RESET
Cd
IN
5V
GND
5.0
0
T830
TRF3192
D835
LNIWBA60
Z803
SLP-MI-06
Z831
P
PRF10005PRT
C833
450V10μ
C832
AC250V0.1μ
C836
25V100μ
R832
1/2W0.82
L830
TRF4331AZ
C838
KETSU
6V
L831
TRF4101AZ
C839
22μ
C840
0.1
D832
MTZJ10C
R834
33
R835
15
C837
16V330μ
R833
1/2W1.8


LIVE AREA
Q801
STR-Z4369
VIN
GND
CONT
CSS
CD
DT
VCC
DRIVCC
OC
RC
COM
OUT
VB
T862
TPW3450AS
Z860
PRF4000SPRT
L803
SHORT
R814
1/2R820
R816
3R 100K
R872
KETSU
R873
KETSU
C821
2KV 680
C822
2KV 820
D811
AG01A
C820
M0.22μ
D812
MTZJ9.1C
L804
TEM2011
R861
1RB.2M
Q862
TLN621(GRL-LF2)
R805
100
R806
100
D858
1SS133
R857
1/2R6.8K
R858
1k
D862
1SS133
D863
1SS145
R859
1R33K
C811 200V0.47μ
R863 100
C883
250V M 0.1μ
R856
1.5K
R854
1R120
C478
M0.47μ
D854
D4SB54
D855
D4SBS6
D856
D4SBL20U
D859
FMB-26L
D860
D4SBL40
Z858
PRF6300SPRT
Z859
PRF6300SPRT
L857
TEM2011
L856
TEM2011
L858
TEM2011
L859
TEM2011
L861
TEM2011
L863
TEM2011
L865
TEM2011
L868
TEM2011
L869
TEM2011
C880
2K270P
C879
2K270P
D813
AL01Z
R810
2R68
C829
50V100μ
R812
1/2R39
R811
1/2R120
C826
2KV220
C828
630V0.068μ
D831
MTZJ10C
Q833
MM1437AS
RESET
Cd
IN
5V
GND
C842
M0.1
D833
MTZJ5.1B
D834
MTZJ5.6B
L833
TRF4220AT
C843
1μ
C839
22μ
C840
0.1
C841
22μ
D832
MTZJ10C
RESET
POWER
5V-1
GND
5V-1
R803
68K
D814
MTZJ5.6B
D891
1SS133
D892
MTZJ4.3A
R822
470
D8615
1SS133
R871
4.7K
D8614
MTZJ6.2C
D819
1SS133
C802
AC250V2200P
C804
AC250V3300P
L837
TEM2011
L836
TEM2014
D803
D15XB60H
C844
AC250V4700
C845
AC250V4700
R836
1R1.0
D836
1S1832
Q821
SHORT
R837
1/2R4.7
C849
630V0.033μ
C848
0.047
Q830
STR83145A
GATE
T1
T2
DELAY
COMMON
C846
450V4.7μ
C847
50V4.7μ
C850
250V820μ
C851
250V820μ
R838
2R33K
L835
TLN3312D
R839
2R47K
R844
47K
Q832
2SA933S
D836
MTZJ4.7A
R845
15K
R846
330
R847
330
D839
SF5J42
R840
1R120K
D837
MTZJ6.8C
R842
3.3K
R841
1K
R843
3.3K
C852
16V10μ
Q831
2SC1740S
C853
0.1
R8623
47
Q8612
2SC1740S
R8621
47K
C8610
50V0.47μ
C8611
50V0.47μ
D8613
MTZJ5.1A
R8622
100
Q8611
6
7
8
9
10
11

※ KETSU means to open the circuit.


Z857 PRF31505PRT
L871 20μ2.5A
11V
C860 35V2200μF
D854 D4SBS4
L857 TEM2011
L856 TEM2011
GND
L858 TEM2011
C859 500V470P
C858 500V470P
Z858 PRF63005PRT
D855 D4SBS6
C861 35V4700μ
+15V
L873 20μ2.5A
C866 25V470μ
GND
C863 35V4700μ
L874 20μ2.5A
C865 25V470μ
-15V
L859 TEM2011
Z859 PRF63005PRT
Z853 PRF40005PRT
L861 TEM2011
L862 TRF3299D
D856 D4SBL20U
C869 50V2200μ
R862 100K
AUDIO 31V
L863 TEM2011
L866 TRF3299D
GND
Z854 PRF50005PRT
L867 20μ2.5A
7V
L864 TEM2011
D859 FMB-26L
C874 B1000P
C875 25V4700μ
L865 TEM2011
GND
R478 2R0.82
L870 TLN3299D
Z856 PRF20005PRT
L872 TLN3299D
+B
L868 TEM2011
D860 D4SBL40
C876 160V330μ
C864 160V47μ
R864 1W33K
C880 2K270P
C879 2K270P
L869 TEM2011
GND
Z801 HIC1026A
R861 1R8.2M
C883 250V M 0.1μ
R854 1R120
R855 1R270
C478 M0.47μ
R856 1.5K
R857 1/2R6.8K
D858 1SS133
R858 1k
D862 1SS133
D863 1SS145
R859 1R33k
C811 200V0.47μ
R863 100
+B OCP C-OUT IZ OCP FILTER GND-1
+25V X-LAY FILTER X-RAY GATE +5V-1 POWER GND-2
R7710 1K
C882 50V22μ
C884 50V10μ
C885 50V2.2μ
R865 1K
R479 82K
D473 RD6.2E
P417
P416
R472 22K
R473 1/4W10KF
R474 1/4W1KF
R476 1/4W750F
L7711 TLN3441AT
C7771 25V470μ
L7712 TLN3441AT
P803A 3P
-15V -15V GND
GND 5V-1
P706A 4P
+120V NC GND 11V
SVM
R865 1/4RF1.0
C871 160V33μ
C872 SL330P
C873 KETSU
P821B 10P
-15V GND GND GND NC +120V +120V +120V NC NC
DEF
P822B 7P
X-RAY GND +15V +15V GND GND -15V
31V 31V GND GND
SIGNAL
P860B 4P
NC
P830B 8P
NC 32V 7V 7V 7V GND GND GND
SIGNAL
GND GND 11V 11V
P831B 4P
Q8631 2SC1740S
Q8630 2SC1740S
R8628 47
R8627 33K
D8616 MTZJ9.1B
R8624 1.5K
R8626 10K
C8613 50V0.47μ
D8617 MTZJ5.1A
C8612 50V0.47μ
R8623 47
Q8612 2SC1740S
R8621 47K
C8611 50V0.47μ
D8613 MTZJ5.1A
C8610 50V0.47μ
R8622 100
Q8611 TLN621
R8620 47K
R8618 2W47K
R8619 120K
R8610 3.3K
R8611 330K(1%)
R8612 330K(1%)
Q8610 TA75393P
R8613 150
R8614 18K(1%)
R8615 470
R8617 10K(1%)
D8612 MTZJ30A
D8611 MTZJ30D
D8610 RD6.2E
LIVE AREA
C D E F G H I J K L
11 12 13 14 15 16

ne circuit.

61D9UXE 50D9UXE
61D9UXA 50D9UXA
61D9UXH 50D9UXH
61D9UXM 50D9UXM

POWER
50D9U SERIES

PK3267

SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (4/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

40200009

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

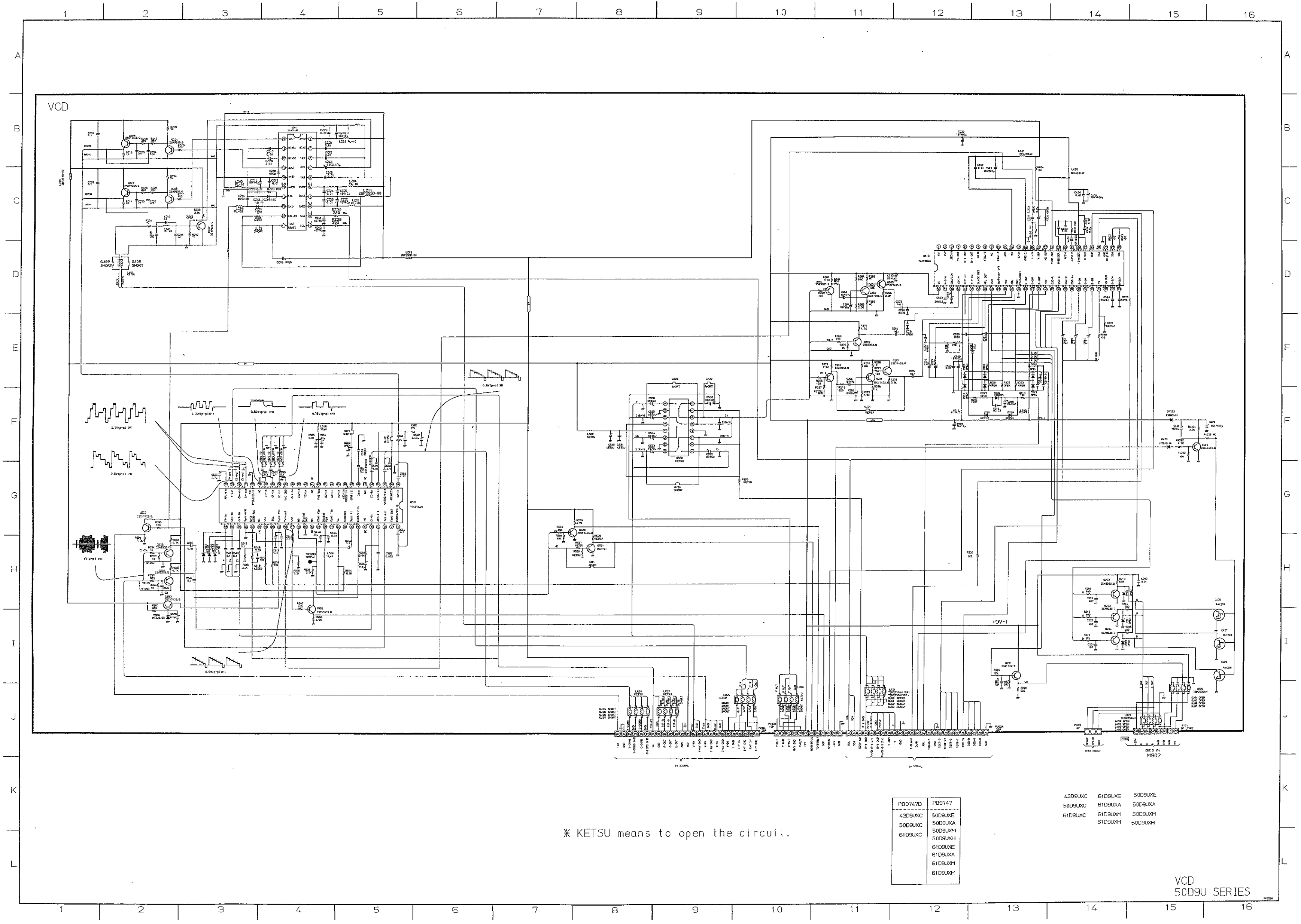
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ● : Solder links.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.



※ KETSU means to open the circuit.

PB9747D	PB9747
43D9UXC 50D9UXC 61D9UXC	50D9UXE 50D9UXA 50D9UXM 50D9UXH 61D9UXE 61D9UXA 61D9UXM 61D9UXH

43D9UXC 61D9UXE 50D9UXE
50D9UXC 61D9UXA 50D9UXA
61D9UXC 61D9UXM 50D9UXM
61D9UXH 50D9UXH

SCHEMATIC DIAGRAM

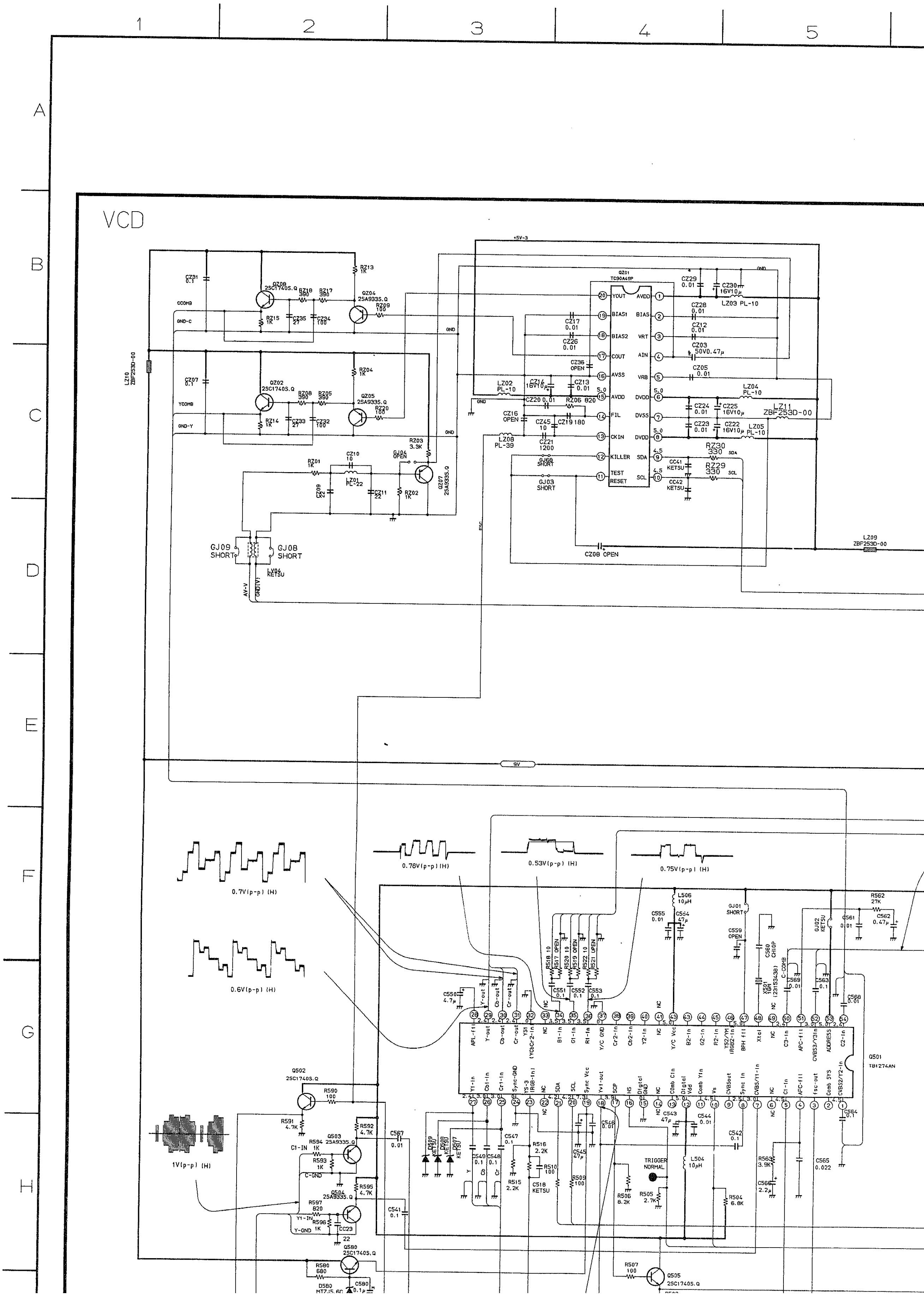
MODEL : 50D9UXE / 50D9UXH (4/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORM

1. Voltages read with VTVM from point shown to
volts, colour bar signal. Voltages reading may
2. All waveforms are taken using a wide band oscill
3. Waveforms are taken using a standard colour b
4. Make sure that CONTRAST and COLOUR co
BRIGHTNESS control is almost in maximum po
picture.

40200009



1
2
3
4
5
A
B
C
D
E
F
G
H
VCD
+5V-3
QZ01
TC90A49P
YOUT
AVDD
BIAS1
BIAS
BIAS2
VRT
COUT
AIN
AVSS
VRB
AVDD
DVDD
FIL
DVSS
CKIN
DVDD
KILLER
SDA
TEST RESET
SCL
QZ08 2SC1740S.Q
QZ04 2SA933S.Q
QZ02 2SC1740S.Q
QZ05 2SA933S.Q
QZ07 2SA933S.Q
LZ10 ZBF253D-00
LZ02 PL-10
LZ03 PL-10
LZ04 PL-10
LZ11 ZBF253D-00
LZ05 PL-10
LZ08 PL-39
LZ01 PL-22
LZ09 ZBF253D-00
RZ30 330
RZ29 330
CZ08 OPEN
GJ09 SHORT
GJ08 SHORT
GJ03 SHORT
LY04 KETSU
COMB
GND-C
YCOMB
GND-Y
AV-V
GND
9V
0.7V(p-p) (H)
0.6V(p-p) (H)
0.76V(p-p) (H)
0.53V(p-p) (H)
0.75V(p-p) (H)
1V(p-p) (H)
Q501
TB1274AN
Q502 2SC1740S.Q
Q503 2SA933S.Q
Q504 2SA933S.Q
Q580 2SC1740S.Q
Q505 2SC1740S.Q
D580 MTZJ5.6C
C1-IN
C-GND
Y1-IN
Y-GND
L506 10μH
L504 10μH
GJ01 SHORT
GJ02 KETSU
X501
TRIGGER NORMAL
R562 27K
C582 0.47μ

D WAVEFORMS

oint shown to chassis ground, line voltage 220
s reading may vary ±20%.
vide band oscilloscope and a low capacity probe.
ndard colour bar signal.
d COLOUR controls are in mid position and
maximum position. Set other controls for best

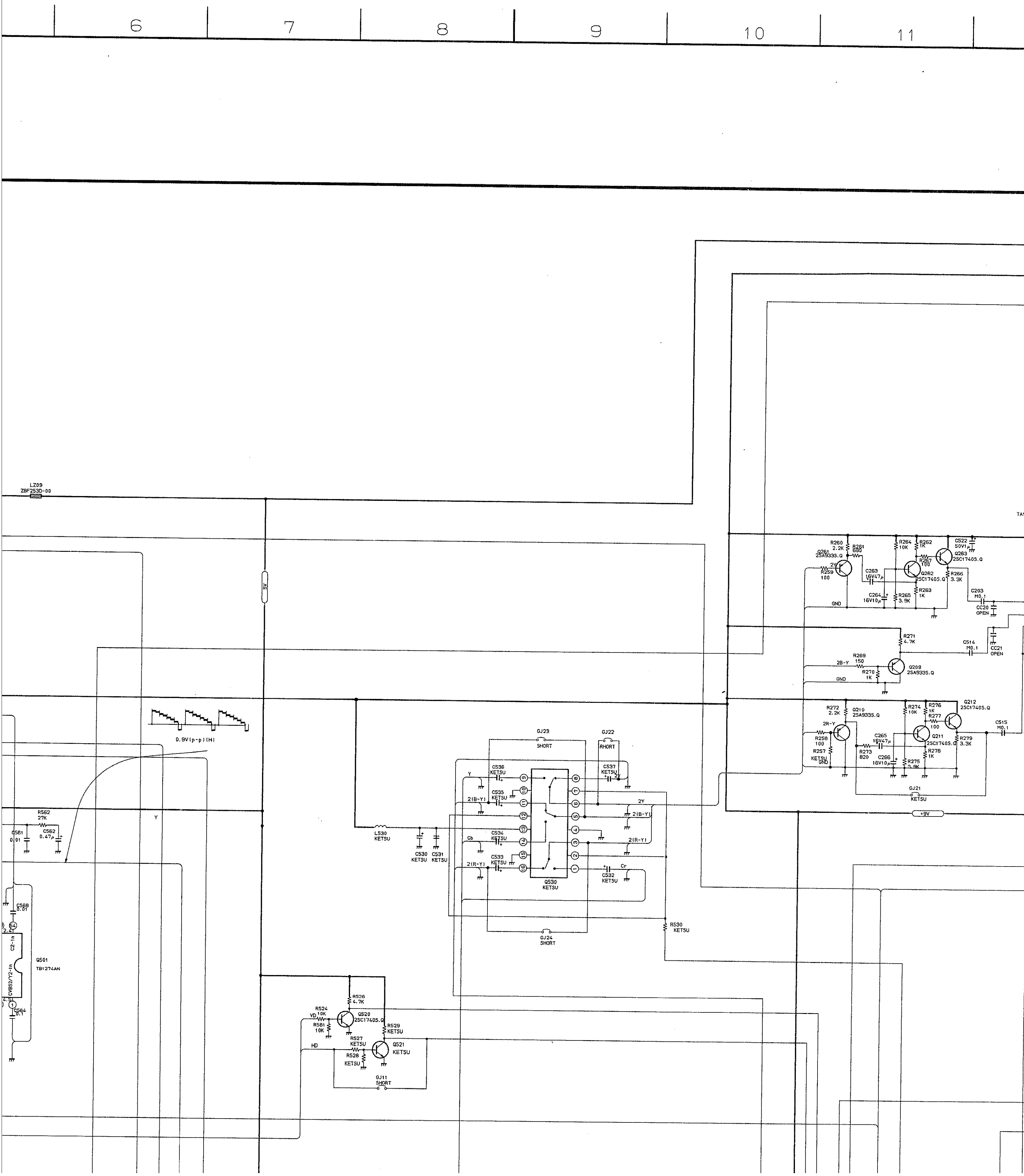
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPRE

VALUE

1. Resist
2. Unless
sed in
3. Unless
sed in

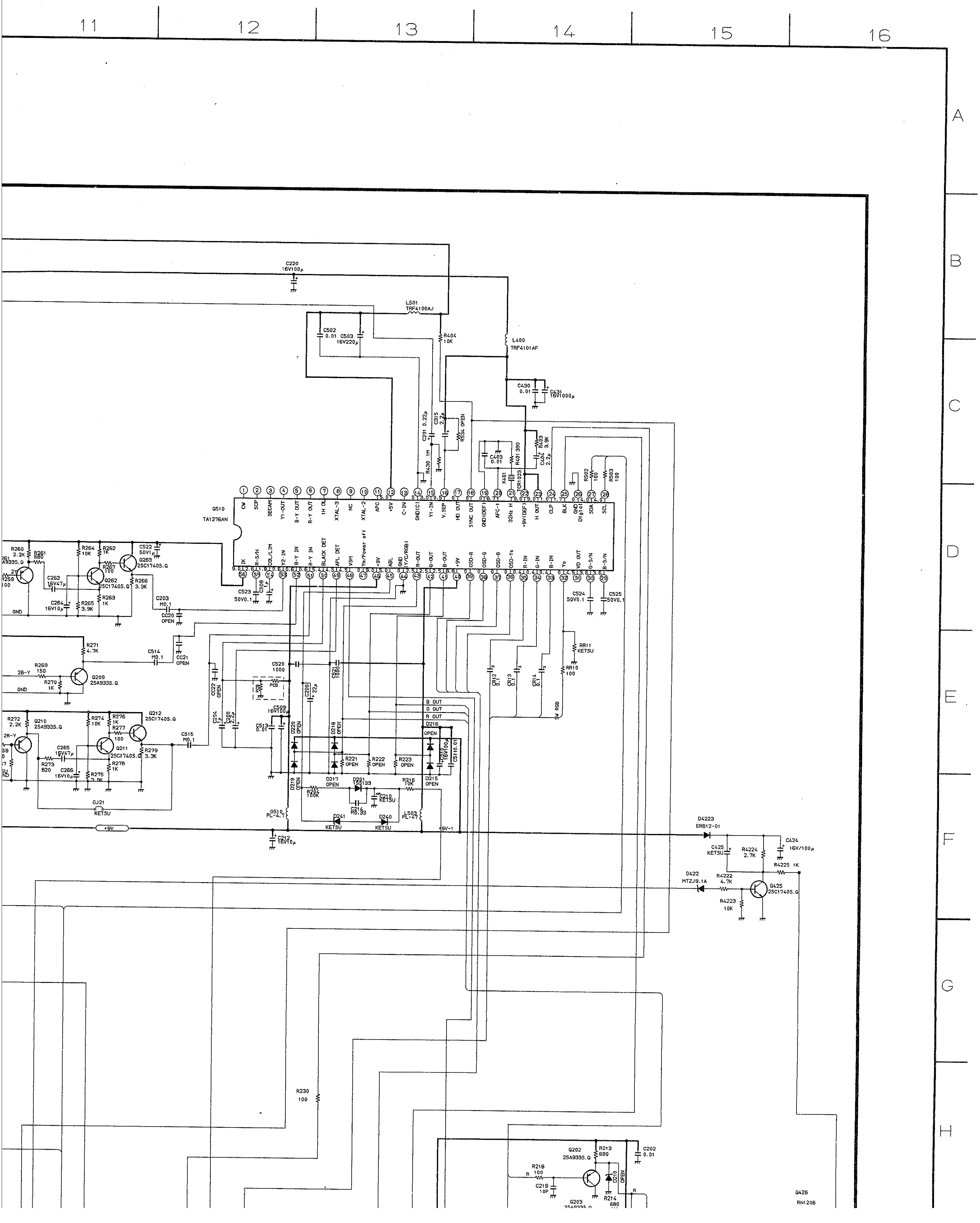

6
7
8
9
10
11
LZ09
ZBF253D-00
5V
0.9V(p-p)(H)
R562
27K
C561
0.01
C562
0.47μ
Y
C568
0.01
54
C2-In
CVBS2/Y2-In
Q501
TB1274AN
C564
0.1
R524
10K
VD
R581
10K
HD
R526
4.7K
Q520
2SC1740S.Q
R529
KETSU
R527
KETSU
R528
KETSU
Q521
KETSU
GJ11
SHORT
L530
KETSU
C530
KETSU
C531
KETSU
GJ23
SHORT
GJ22
RHORT
C536
KETSU
C535
KETSU
C534
KETSU
C533
KETSU
C537
KETSU
C532
KETSU
2(B-Y)
Cb
2(R-Y)
2Y
Cr
Q530
KETSU
GJ24
SHORT
R530
KETSU
R260
2.2K
R261
680
Q261
2SA933S.Q
R259
100
C263
16V47μ
C264
16V10μ
R264
10K
R265
3.9K
R262
1K
R267
100
Q262
2SC1740S.Q
R263
1K
C522
50V1μ
Q263
2SC1740S.Q
R266
3.3K
C203
M0.1
CC20
OPEN
GND
R271
4.7K
R269
150
2B-Y
R270
1K
Q209
2SA933S.Q
C514
M0.1
CC21
OPEN
R272
2.2K
Q210
2SA933S.Q
2R-Y
R258
100
R257
KETSU
R273
820
C265
16V47μ
C266
16V10μ
R274
10K
R275
3.9K
R276
1K
R277
100
Q211
2SC1740S.Q
R278
1K
Q212
2SC1740S.Q
R279
3.3K
C515
M0.1
GJ21
KETSU
+9V
TA

c dia-

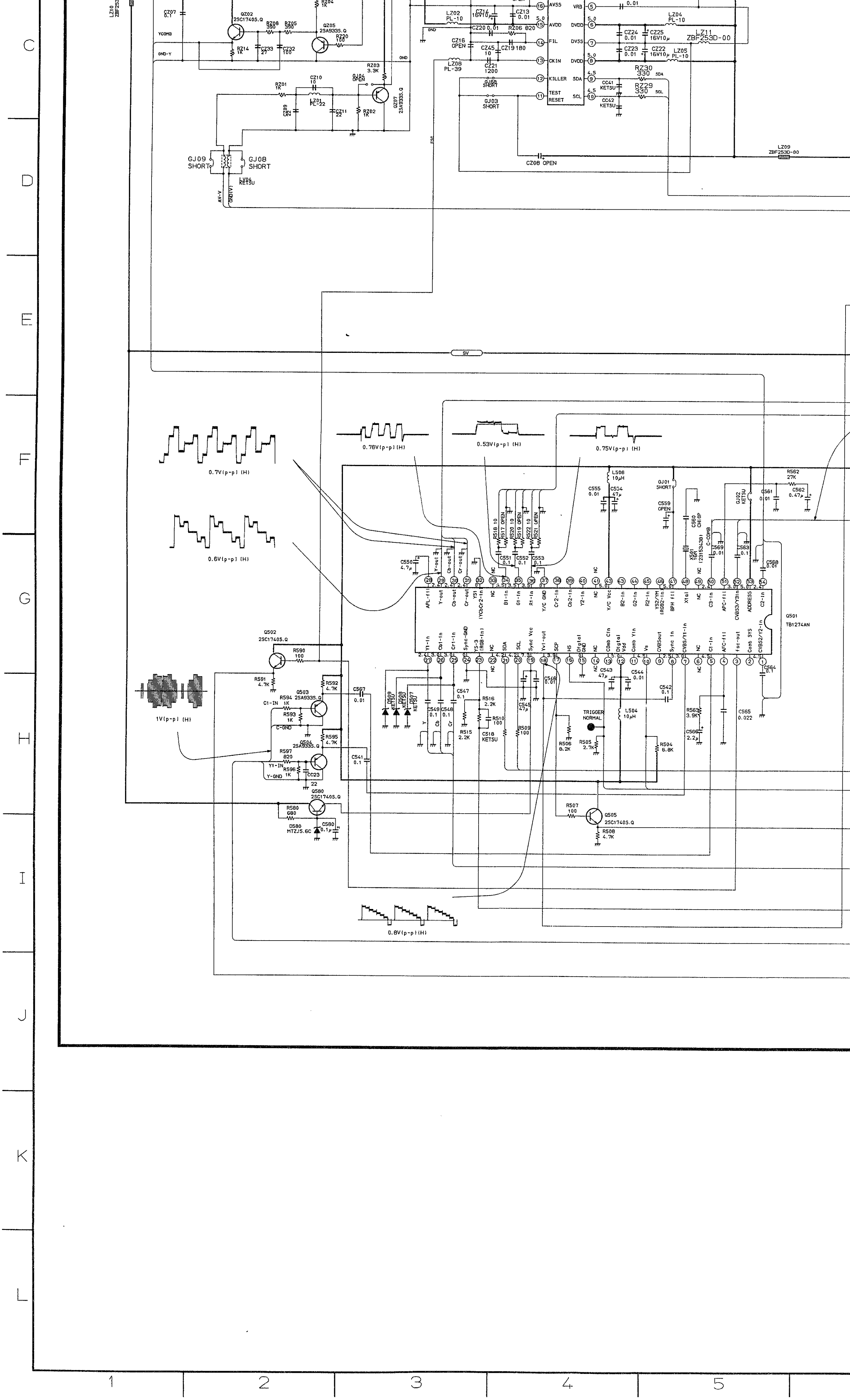
EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

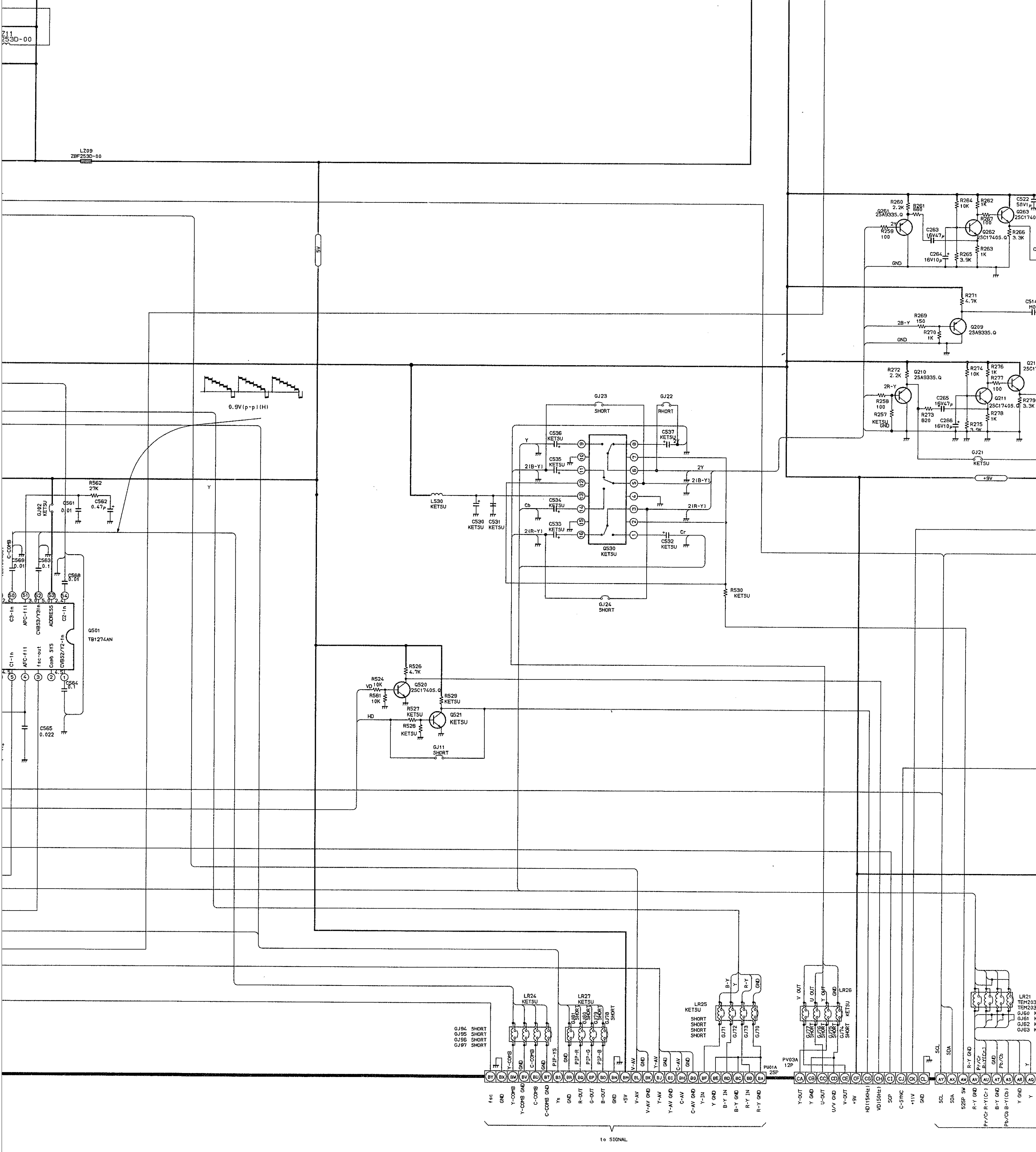
1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.



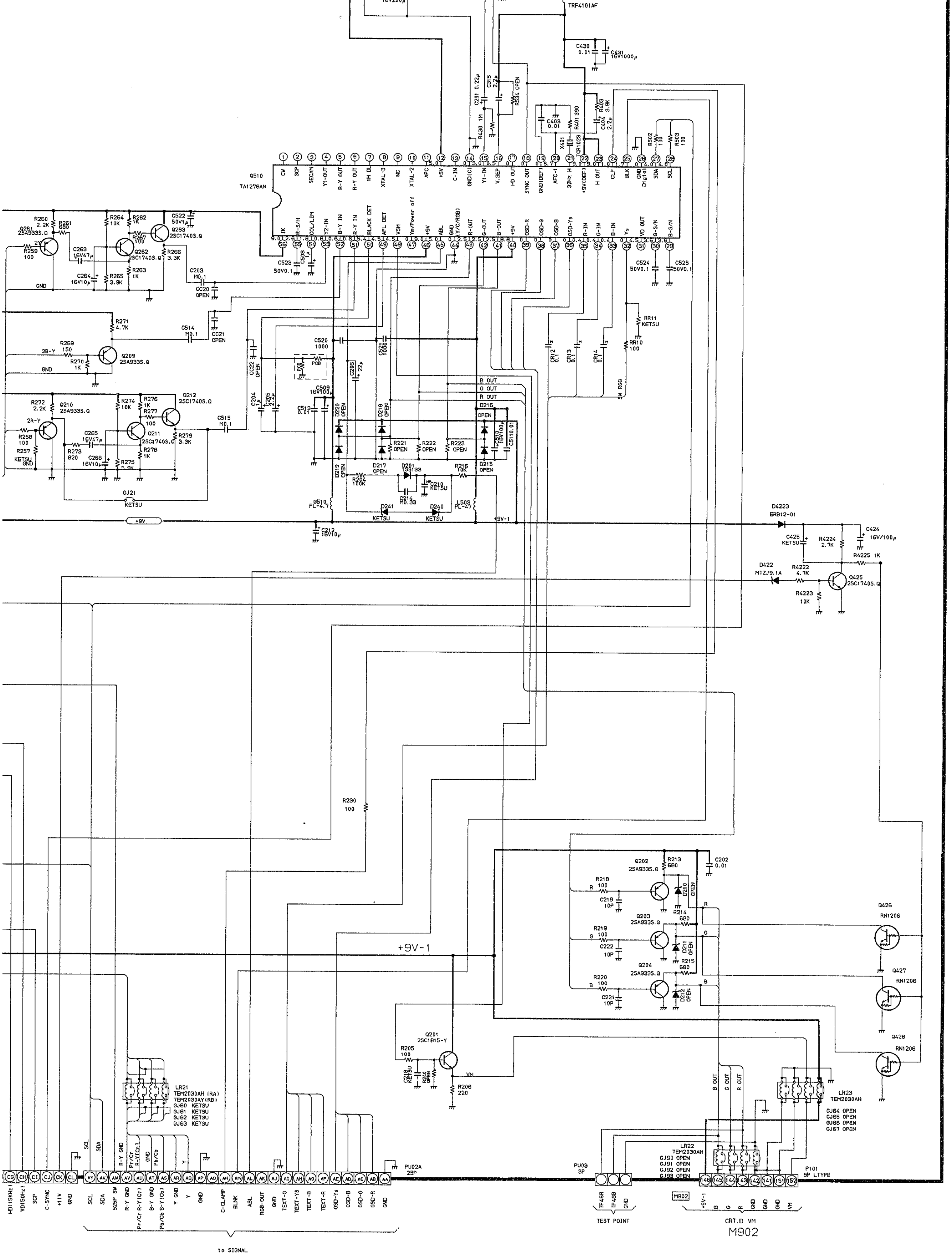
11
12
13
14
15
16
A
B
C
D
E
F
G
H
C220 16V100μ
L501 TRF4100AJ
C502 0.01
C503 16V220μ
R404 10K
L400 TRF4101AF
C430 0.01
C431 16V1000μ
C201 0.22μ
C315 2.2μ
R534 OPEN
R430 1M
C403 0.01
R401 390
X401
TCR1023
R403 3.9K
C404 2.2μ
R502 100
R503 100
Q510
TA1276AN
CW
SCP
SECAM
Y1-OUT
B-Y OUT
R-Y OUT
1H DL
XTAL-3
NC
XTAL-2
APC
+5V
C-IN
GND(C)
Y1-IN
V.SEP
HD OUT
SYNC OUT
GND(DEF)
AFC-1
32Hz H
+9V(DEF)
H OUT
CLP
BLK
GND Digital
SDA
SCL
IK
R-S/H
COL/LIM
Y2-IN
B-Y IN
R-Y IN
BLACK DET
APL DET
VSM
Ym/Power off
+9V
ABL
GND (Y/C/RGB)
R-OUT
G-OUT
B-OUT
+9V
OSD-R
OSD-G
OSD-B
OSD-Ys
R-IN
G-IN
B-IN
Ys
VD OUT
G-S/N
B-S/N
C523 50V0.1
C508 1μ
C524 50V0.1
C525 50V0.1
RR11 KETSU
RR10 100
CR12 0.1
CR13 0.1
CR14 0.1
SW RGB
R260 2.2K
R261 680
R264 10K
R262 1K
C522 50V1μ
R267 100
Q263 2SC1740S.Q
Q262 2SC1740S.Q
R266 3.9K
C263 16V47μ
C264 16V10μ
R265 3.9K
R263
GND
C203 M0.1
CC20 OPEN
R271 4.7K
C514 M0.1
CC21 OPEN
R269 150
2B-Y
R270 1K
Q209 2SA933S.Q
C520 1000
C521 1000
PCB
C209 22μ
CC22 OPEN
C204
C205 2.2μ
C509 16V100μ
C513 0.01
R272 2.2K
Q210 2SA933S.Q
2R-Y
R274 10K
R276 1K
R277 100
Q212 2SC1740S.Q
C265 16V47μ
Q211 2SC1740S.Q
R279 3.3K
R278 1K
R273 820
C266 16V10μ
R275 3.9K
C515 M0.1
B OUT
G OUT
R OUT
D216 OPEN
D220 OPEN
D218 OPEN
R221 OPEN
R222 OPEN
R223 OPEN
C510 0.01
D219 OPEN
D217 OPEN
D201 1SS133
R216 10K
D215 OPEN
R202 100K
C210 KETSU
C214 M0.33
GJ21 KETSU
G510 PL-4.7
L503 PL-47
D241 KETSU
D240 KETSU
+9V
+9V-1
C212 16V10μ
D4223 ERB12-01
C425 KETSU
R4224 2.7K
C424 16V/100μ
R4225 1K
D422 MTZJ9.1A
R4222 4.7K
Q425 2SC1740S.Q
R4223 10K
R230 100
Q202 2SA933S.Q
R213 680
C202 0.01
R218 100
R
C219 10P
D210 OPEN
R214 680
Q203 2SA933S.Q
Q426
RN1206



C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
LZ10 ZBF253
CZ07 0.1
QZ02 2SC1740S.Q
RZ08 390
RZ05 390
RZ04 1K
QZ05 2SA933S.Q
RZ20 100
YCOMB
RZ14 1K
CZ33 27
CZ32 100
GND-Y
GND
RZ03 3.3K
RZ01 1K
CZ10 10
GJ04 OPEN
LZ01 PL-22
CZ09 22
CZ11 22
RZ02 1K
QZ07 2SA933S.Q
GJ09 SHORT
GJ08 SHORT
LV04 KETSU
AV-V
GND(V)
FSC
LZ02 PL-10
CZ14 16V10μ
CZ13 0.01
AVSS
AVDD
CZ20 0.01
RZ06 820
CZ16 OPEN
CZ45 10
CZ19 180
FIL
LZ06 PL-39
CZ21 1200
CKIN
GJ06 SHORT
KILLER
TEST
RESET
GJ03 SHORT
VRB
0.01
DVDD
DVSS
LZ04 PL-10
CZ24 0.01
CZ25 16V10μ
LZ11 ZBF253D-00
CZ23 0.01
CZ22 16V10μ
LZ05 PL-10
SDA
SCL
RZ30 330
RZ29 330
CC41 KETSU
CC42 KETSU
CZ08 OPEN
LZ09 ZBF253D-00
5V
0.7V(p-p) (H)
0.6V(p-p) (H)
0.76V(p-p) (H)
0.53V(p-p) (H)
0.75V(p-p) (H)
L506 10μH
C555 0.01
C504 47μ
GJ01 SHORT
C559 OPEN
C560 CH10P
X501 (23153438)
C-COMB
GJ02 KETSU
C561 0.01
R562 27K
C562 0.47μ
C569 0.01
C563 0.1
C568 0.01
R518 10
R517 OPEN
R520 10
R519 OPEN
R522 10
R521 OPEN
C551 0.1
C552 0.1
C553 0.1
C550 4.7μ
Y-out
Cb-out
Cr-out
APL-fil
YS1
(YCbCr2-In)
NC
B1-In
G1-In
R1-In
Y/C GND
Cr2-In
Cb2-In
Y2-In
Y/C Vcc
B2-In
G2-In
R2-In
YS2/YM (RGB2-In)
BPH fil
Xtal
C3-In
APC-fil
CVBS3/Y3In
ADDRESS
C2-In
Q501 TB1274AN
Y1-In
Cb1-In
Cr1-In
Sync-GND
YS-3 (RGB-In)
SDA
SCL
Sync Vcc
Yv1-out
SCP
HS
Digital GND
Comb Cin
Digital Vdd
Comb Yin
Vs
CVBSout
Sync In
CVBS/Y1-In
C1-In
AFC-fil
fsc-out
Comb SYS
CVBS2/Y2-In
C564 0.1
Q502 2SC1740S.Q
R590 100
R591 4.7K
Q503 2SA933S.Q
R594 1K
R592 4.7K
C1-IN
R593 1K
C-GND
C567 0.01
D509 KETSU
D508 KETSU
D507 KETSU
C549 0.1
C546 0.1
C547 0.1
R516 2.2K
R510 100
C545 47μ
C548 0.01
R509 100
R515 2.2K
C518 KETSU
Y
Cb
Cr
C543 47μ
C544 0.01
C542 0.1
TRIGGER NORMAL
L504 10μH
R506 8.2K
R505 2.7K
R504 6.8K
R563 3.9K
C566 2.2μ
C565 0.022
1V(p-p) (H)
R595 4.7K
Q504 2SA933S.Q
R597 820
Y1-IN
R596 1K
Y-GND
CC23 22
C541 0.1
Q580 2SC1740S.Q
R580 680
D580 MTZJ5.6C
C580 0.1μ
R507 100
Q505 2SC1740S.Q
R508 4.7K
0.8V(p-p) (H)


LZ09
ZBF253D-00
5V
0.9V(p-p)(H)
R562
27K
C561
0.01
C562
0.47μ
GJ02
KETSU
C-COMB
C569
0.01
C563
0.1
C568
0.01
C3-in
AFC-fil
CVBS3/Y3in
ADDRESS
C2-in
C1-in
AFC-fil
fsc-out
Comb SYS
CVBS2/Y2-in
Q501
TB1274AN
C564
0.1
C565
0.022
GJ23
SHORT
GJ22
RHORT
C536
KETSU
C535
KETSU
C534
KETSU
C533
KETSU
C537
KETSU
C532
KETSU
2(B-Y)
2(R-Y)
2Y
Cb
Cr
Y
LS30
KETSU
C530
KETSU
C531
KETSU
Q530
KETSU
GJ24
SHORT
R530
KETSU
R526
4.7K
R524
10K
VD
R581
10K
Q520
2SC1740S.Q
R529
KETSU
R527
KETSU
R528
KETSU
HD
Q521
KETSU
GJ11
SHORT
R260
2.2K
R261
680
Q261
2SA9335.Q
R259
100
C263
16V47μ
C264
16V10μ
R264
10K
R262
1K
R267
100
Q262
2SC1740S.Q
R265
3.9K
R263
1K
C522
50V1μ
Q263
2SC1740
R266
3.3K
GND
R271
4.7K
R269
150
2B-Y
R270
1K
Q209
2SA9335.Q
R272
2.2K
Q210
2SA9335.Q
2R-Y
R258
100
R257
KETSU
R274
10K
R276
1K
R277
100
C265
16V47μ
Q211
2SC1740S.Q
R279
3.3K
R273
820
C266
16V10μ
R275
3.9K
R278
1K
GJ21
KETSU
+9V
LR24
KETSU
GJ94 SHORT
GJ95 SHORT
GJ96 SHORT
GJ97 SHORT
LR27
KETSU
GJ81 SHORT
GJ80 SHORT
GJ79 SHORT
GJ78 SHORT
LR25
KETSU
SHORT
SHORT
SHORT
SHORT
GJ71
GJ72
GJ73
GJ70
LR26
GJ77 SHORT
GJ76 SHORT
GJ75 SHORT
GJ74 SHORT
KETSU
LR21
GJ60
GJ61
GJ62
GJ63
PU01A
25P
PV03A
12P
fsc
GND
Y-COMB
Y-COMB GND
C-COMB
C-COMB GND
Ys
GND
R-OUT
G-OUT
B-OUT
GND
+5V
V-AV
V-AV GND
Y-AV
Y-AV GND
C-AV
C-AV GND
Y-IN
Y GND
B-Y IN
B-Y GND
R-Y IN
R-Y GND
to SIGNAL
Y-OUT
Y GND
U-OUT
U/V GND
V-OUT
+9V
HD(15KHz)
VD(50Hz)
SCP
C-SYNC
+11V
GND
SCL
SDA
525P SW
R-Y GND
Pr/Cr R-Y(Cr)
B-Y GND
Pb/Cb B-Y(Cb)
Y GND
Y
5
6
7
8
9
10
11

∗ KETSU means to open the circuit.


Q510
TA1276AN
C430 0.01
C431 16V1000μ
TRF4101AF
R260 2.2K
R261 680
Q261 2SA933S.Q
R264 10K
R262 1K
C522 50V1μ
Q263 2SC1740S.Q
Q262 2SC1740S.Q
R266 3.3K
R263 1K
R265 3.9K
R259 100
C263 16V47μ
C264 16V10μ
C203 M0.1
CC20 OPEN
C523 50V0.1
C524 50V0.1
C525 50V0.1
R271 4.7K
C514 M0.1
CC21 OPEN
R269 150
R270 1K
Q209 2SA933S.Q
2B-Y
2R-Y
GND
R272 2.2K
Q210 2SA933S.Q
R274 10K
R276 1K
R277 100
Q212 2SC1740S.Q
Q211 2SC1740S.Q
C265 16V47μ
C266 16V10μ
R258 100
R257 KETSU
R273 820
R275 3.9K
R278 1K
R279 3.3K
C515 M0.1
GJ21 KETSU
+9V
C520 1000
C521 1000
C509 16V100μ
C513 0.01
D220 OPEN
D218 OPEN
D216 OPEN
D219 OPEN
D217 OPEN
D201 1SS133
D215 OPEN
R221 OPEN
R222 OPEN
R223 OPEN
R216 10K
R204 100K
C214 M0.33
C210 KETSU
D241 KETSU
D240 KETSU
Q510 PL-4.7
L503 PL-47
C212 16V10μ
B OUT
G OUT
R OUT
+9V-1
D4223 ERB12-01
C425 KETSU
R4224 2.7K
C424 16V/100μ
R4225 1K
D422 MTZJ9.1A
R4222 4.7K
R4223 10K
Q425 2SC1740S.Q
RR11 KETSU
RR10 100
R230 100
Q202 2SA933S.Q
R213 680
C202 0.01
R218 100
C219 10P
D210 OPEN
Q203 2SA933S.Q
R214 680
R219 100
C222 10P
D211 OPEN
Q204 2SA933S.Q
R215 680
R220 100
C221 10P
D212 OPEN
Q426 RN1206
Q427 RN1206
Q428 RN1206
Q201 2SC1815-Y
R205 100
R206 220
VM
LR21 TEM2030AH (RA) TEM2030AY (RB)
GJ60 KETSU
GJ61 KETSU
GJ62 KETSU
GJ63 KETSU
LR23 TEM2030AH
GJ64 OPEN
GJ65 OPEN
GJ66 OPEN
GJ67 OPEN
LR22 TEM2030AH
GJ90 OPEN
GJ91 OPEN
GJ92 OPEN
GJ93 OPEN
PU02A 25P
PU03 3P
P101 8P LTYPE
HD(15KHz)
VD(50Hz)
SCP
C-SYNC
+11V
GND
SCL
SDA
525P SW
R-Y GND
Pr/Cr R-Y(Cr)
B-Y GND
Pb/Cb B-Y(Cb)
Y GND
Y
C-CLAMP
BLNK
ABL
RGB-OUT
TEXT-G
TEXT-Ys
TEXT-B
TEXT-R
OSD-Ys
OSD-B
OSD-G
OSD-R
to SIGNAL
TP46R
TP46B
TEST POINT
M902
+9V-1
B
G
R
VM
CRT.D VM
M902

PB9747D	PB9747
43D9UXC 50D9UXC 61D9UXC	50D9UXE 50D9UXA 50D9UXM 50D9UXH 61D9UXE 61D9UXA 61D9UXM 61D9UXH

43D9UXC
50D9UXC
61D9UXC

61D9UXE
61D9UXA
61D9UXM
61D9UXH

50D9UXE
50D9UXA
50D9UXM
50D9UXH

VCD
50D9U SERIES

PK3268

SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH 50D9UXA (5/7)

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

NOTES:

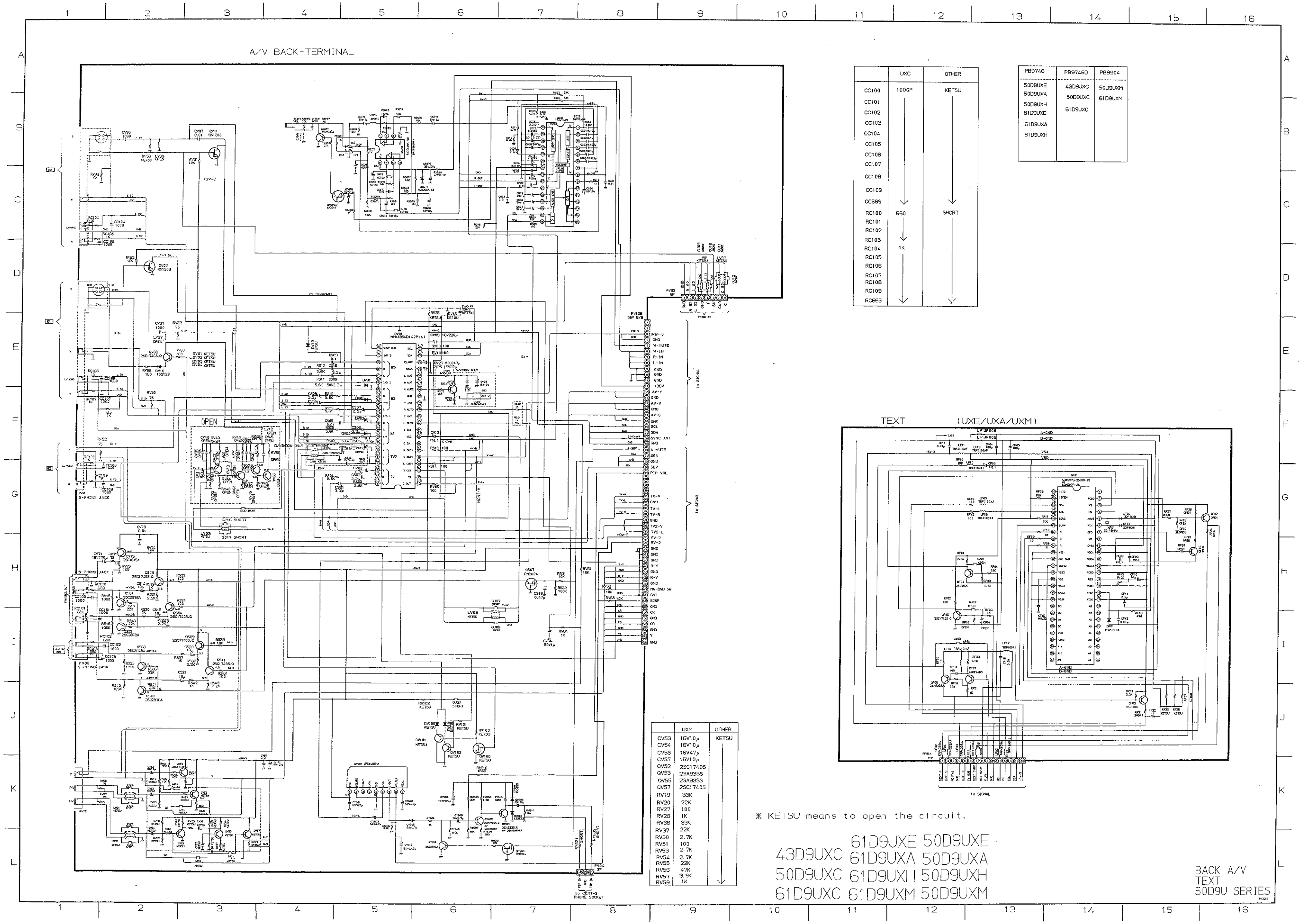
1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

40200009



	UXC	OTHER
CC100	1000P	KETSU
CC101	↓	↓
CC102	↓	↓
CC103	↓	↓
CC104	↓	↓
CC105	↓	↓
CC106	↓	↓
CC107	↓	↓
CC108	↓	↓
CC109	↓	↓
CC669	↓	↓
RC100	680	SHORT
RC101	↓	↓
RC102	↓	↓
RC103	↓	↓
RC104	1K	↓
RC105	↓	↓
RC106	↓	↓
RC107	↓	↓
RC108	↓	↓
RC109	↓	↓
RC665	↓	↓

PB9746	PB9746D	PB9904
50D9UXE 50D9UXA 50D9UXH 61D9UXE 61D9UXA 61D9UXH	43D9UXC 50D9UXC 61D9UXC	50D9UXM 61D9UXM

	UXM	OTHER
CV53	16V10μ	KETSU
CV54	16V10μ	↓
CV56	16V47μ	↓
CV57	16V10μ	↓
QV52	2SC1740S	↓
QV53	2SA933S	↓
QV55	2SA933S	↓
QV57	2SC1740S	↓
RV19	33K	↓
RV20	22K	↓
RV27	100	↓
RV28	1K	↓
RV36	33K	↓
RV37	22K	↓
RV50	2.7K	↓
RV51	100	↓
RV53	2.7K	↓
RV54	2.7K	↓
RV55	22K	↓
RV56	47K	↓
RV57	3.9K	↓
RV59	1K	↓

※ KETSU means to open the circuit.

	61D9UXE	50D9UXE
43D9UXC	61D9UXA	50D9UXA
50D9UXC	61D9UXH	50D9UXH
61D9UXC	61D9UXM	50D9UXM

BACK A/V
TEXT
50D9U SERIES

SCHEMATIC DIAGRAM

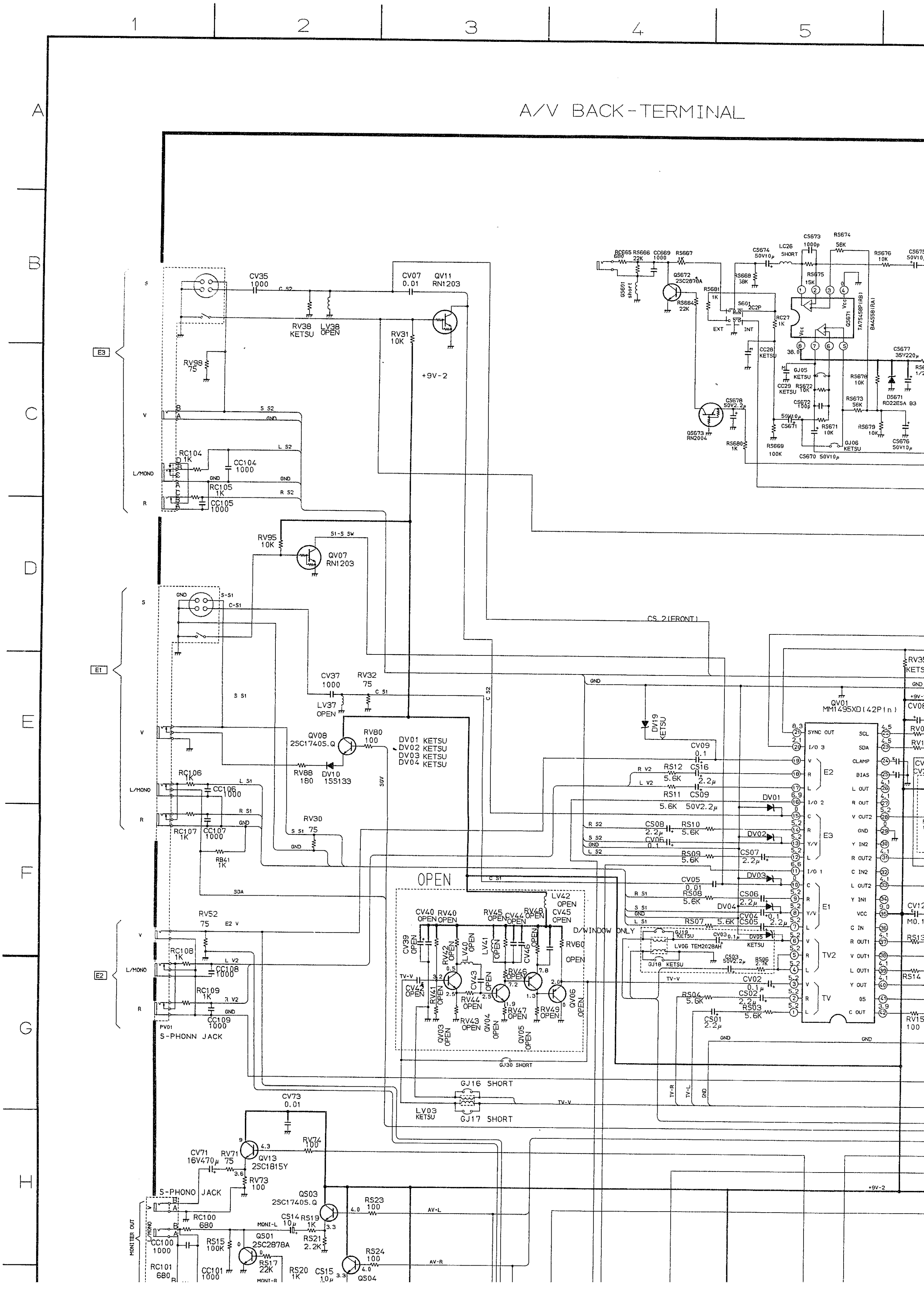
MODEL : 50D9UXE / 50D9UXH (5/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to c
volts, colour bar signal. Voltages reading may v
2. All waveforms are taken using a wide band oscillo
3. Waveforms are taken using a standard colour ba
4. Make sure that CONTRAST and COLOUR con
BRIGHTNESS control is almost in maximum posi
picture.

40200009



1
2
3
4
5
A
B
C
D
E
F
G
H
A/V BACK-TERMINAL
E3
E1
E2
CV35 1000
CV07 0.01
QV11 RN1203
RV38 KETSU
LV38 OPEN
RV31 10K
+9V-2
RV98 75
RC104 1K
CC104 1000
RC105 1K
CC105 1000
L/MONO
RV95 10K
QV07 RN1203
S1-S SW
CV37 1000
RV32 75
LV37 OPEN
QV08 2SC1740S.Q
RV80 100
RV88 180
DV10 1SS133
DV01 KETSU
DV02 KETSU
DV03 KETSU
DV04 KETSU
RC106
CC106 1000
RC107 1K
CC107 1000
RB41 1K
RV30 75
OPEN
LV42 OPEN
CV45 OPEN
D/WINDOW ONLY
RV60 OPEN
RV52 75
RC108 1K
CC108 1000
RC109 1K
CC109 1000
PV01
S-PHONN JACK
CS 2(FRONT)
QV01 MM1495XD(42Pin)
SYNC OUT
I/O 3
I/O 2
I/O 1
SCL
SDA
CLAMP
BIAS
L OUT
R OUT
V OUT2
GND
Y IN2
R OUT2
C IN2
L OUT2
Y IN1
VCC
C IN
R OUT1
V OUT1
L OUT1
Y OUT
OS
C OUT
TV2
TV
DV19 KETSU
CV09 0.1
RS12 5.6K
CS16 2.2μ
RS11 5.6K
CS09 50V2.2μ
CS08 2.2μ
RS10 5.6K
CV06 0.1
RS09 5.6K
CS07 2.2μ
CV05 0.01
RS08 5.6K
CS06 2.2μ
RS07 5.6K
CS05 2.2μ
GJ18 KETSU
LV06 TEM2028AH
CV02 0.1μ
RS04 5.6K
CS02 2.2μ
RS03 5.6K
CS01 2.2μ
GJ30 SHORT
GJ16 SHORT
GJ17 SHORT
LV03 KETSU
CV73 0.01
RV74 100
CV71 16V470μ
RV71 75
QV13 2SC1815Y
RV73 100
S-PHONO JACK
QS03 2SC1740S.Q
RS23 100
RC100 680
CS14 10μ
RS19 1K
CC100 1000
RS15 100K
QS01 2SC2878A
RS21 2.2K
RS17 22K
RS24 100
RC101 680
CC101 1000
RS20 1K
CS15 10μ
QS04
MONITER OUT
AV-L
AV-R
MONI-L
MONI-R
TV-V
TV-R
TV-L
+9V-2
LC26 SHORT
QS672 2SC2878A
QS673 RN2004
QS671 TA7545BP(RB)
DS671 RD22ESA B3
S601 2C2P
EXT
INT

; AND WAVEFORMS

om point shown to chassis ground, line voltage 220
tages reading may vary ±20%.
g a wide band oscilloscope and a low capacity probe.
a standard colour bar signal.
T and COLOUR controls are in mid position and
ost in maximum position. Set other controls for best

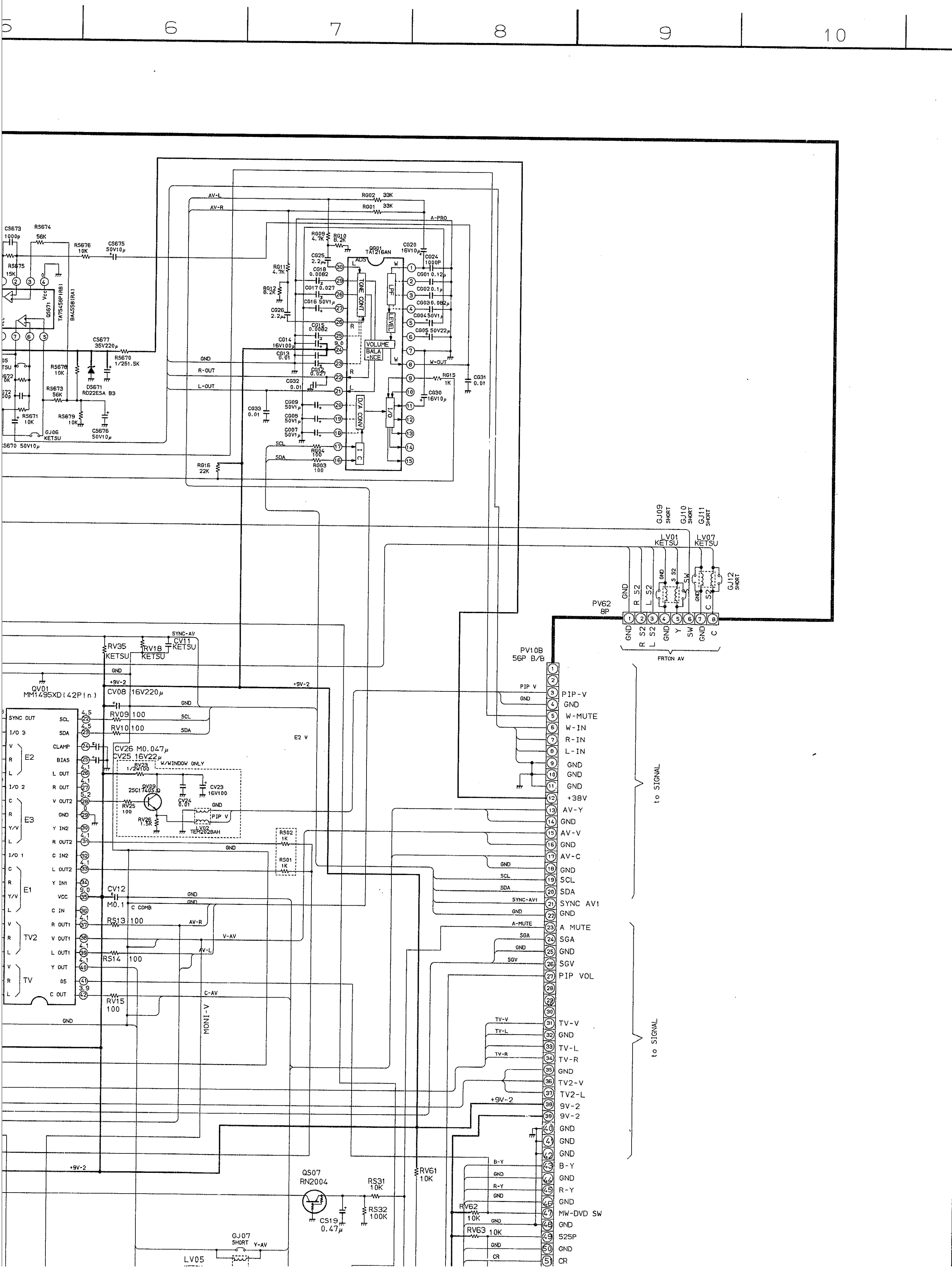
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXP

VAL

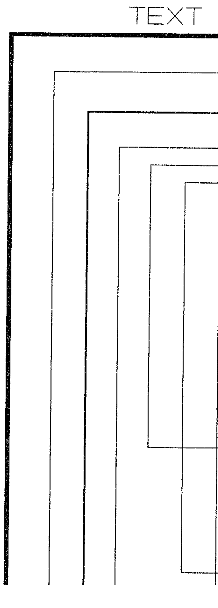
1. R
2. U
se
3. U
se



5
6
7
8
9
10
11
AV-L
AV-R
RG02 33K
RG01 33K
A-PRO
RG09 4.7K
RG10 8.2K
QG01 TA1216AN
CG20 16V10μ
CG24 1000P
CG25 2.2μ
CG18 0.0082
CG17 0.027
CG16 50V1μ
CG26 2.2μ
CG15 0.0082
CG14 16V100μ
CG13 0.01
CG12 0.027
CG32 0.01
CG01 0.12μ
CG02 0.1μ
CG03 0.082μ
CG04 50V1μ
CG05 50V22μ
RG11 4.7K
RG12 8.2K
ADS
TONE CONT
LPF
LEVEL
VOLUME
BALA -NCE
D/A CONV
I/O
I²C
W-OUT
RG15 1K
CG31 0.01
CG30 16V10μ
CG33 0.01
CG09 50V1μ
CG08 50V1μ
CG07 50V1μ
SCL
SDA
RG04 100
RG03 100
RG16 22K
GND
R-OUT
L-OUT
C5673 1000p
R5674 56K
R5675 15K
R5676 10K
C5675 50V10μ
Q5671 TA75458P(RB)
BA4558(RA)
C5677 35V220μ
R5670 1/251.5K
R5678 10K
R5673 56K
D5671 RD22ESA B3
R5671 10K
R5679 10K
C5676 50V10μ
GJ06 KETSU
C5670 50V10μ
GJ09 SHORT
GJ10 SHORT
GJ11 SHORT
LV01 KETSU
LV07 KETSU
GJ12 SHORT
PV62 8P
GND
R S2
L S2
GND
Y
SW
GND
C
FRTON AV
PV10B 56P B/B
SYNC-AV
RV35 KETSU
RV18 KETSU
CV11 KETSU
QV01 MM1495XD(42Pin)
CV08 16V220μ
+9V-2
RV09 100
RV10 100
CV26 M0.047μ
CV25 16V22μ
RV23 1/2W100
W/WINDOW ONLY
QV09 2SC1740S.Q
RV25 100
RV26 1.5K
CV23 16V100
CV24 0.01
LV02 TEM2028AH
PIP V
E2 V
RS02 1K
RS01 1K
SYNC OUT
I/O 3
E2
I/O 2
E3
I/O 1
E1
TV2
TV
SCL
SDA
CLAMP
BIAS
L OUT
R OUT
V OUT2
Y IN2
R OUT2
C IN2
L OUT2
Y IN1
VCC
C IN
R OUT1
V OUT1
L OUT1
Y OUT
05
C OUT
CV12 M0.1
C COMB
RS13 100
RS14 100
RV15 100
V-AV
C-AV
MONI-V
to SIGNAL
①
②
③ PIP-V
④ GND
⑤ W-MUTE
⑥ W-IN
⑦ R-IN
⑧ L-IN
⑨ GND
⑩ GND
⑪ GND
⑫ +38V
⑬ AV-Y
⑭ GND
⑮ AV-V
⑯ GND
⑰ AV-C
⑱ GND
⑲ SCL
⑳ SDA
㉑ SYNC AV1
㉒ GND
㉓ A MUTE
㉔ SGA
㉕ GND
㉖ SGV
㉗ PIP VOL
㉘
㉙
㉚
㉛ TV-V
㉜ GND
㉝ TV-L
㉞ TV-R
㉟ GND
㊱ TV2-V
㊲ TV2-L
㊳ 9V-2
㊴ 9V-2
㊵ GND
㊶ GND
㊷ GND
㊸ B-Y
㊹ GND
㊺ R-Y
㊻ GND
㊼ MW-DVD SW
㊽ GND
㊾ 525P
㊿ GND
(51) CR
Q507 RN2004
RS31 10K
RS32 100K
CS19 0.47μ
RV61 10K
RV62 10K
RV63 10K
GJ07 SHORT
LV05

	UX(
CC100	1000
CC101	
CC102	
CC103	
CC104	
CC105	
CC106	
CC107	
CC108	
CC109	
CC669	↓
RC100	680
RC101	
RC102	
RC103	↓
RC104	1K
RC105	
RC106	
RC107	
RC108	
RC109	
RC665	↓

TEXT



matic dia-

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

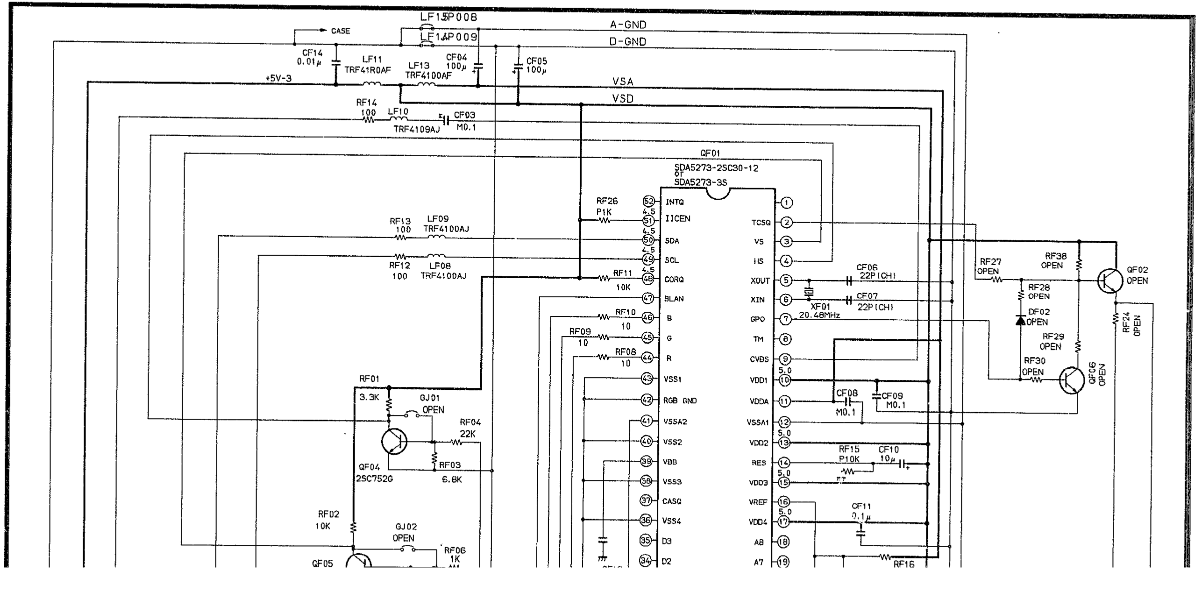
11 12 13 14 15 16

A B C D E F G H

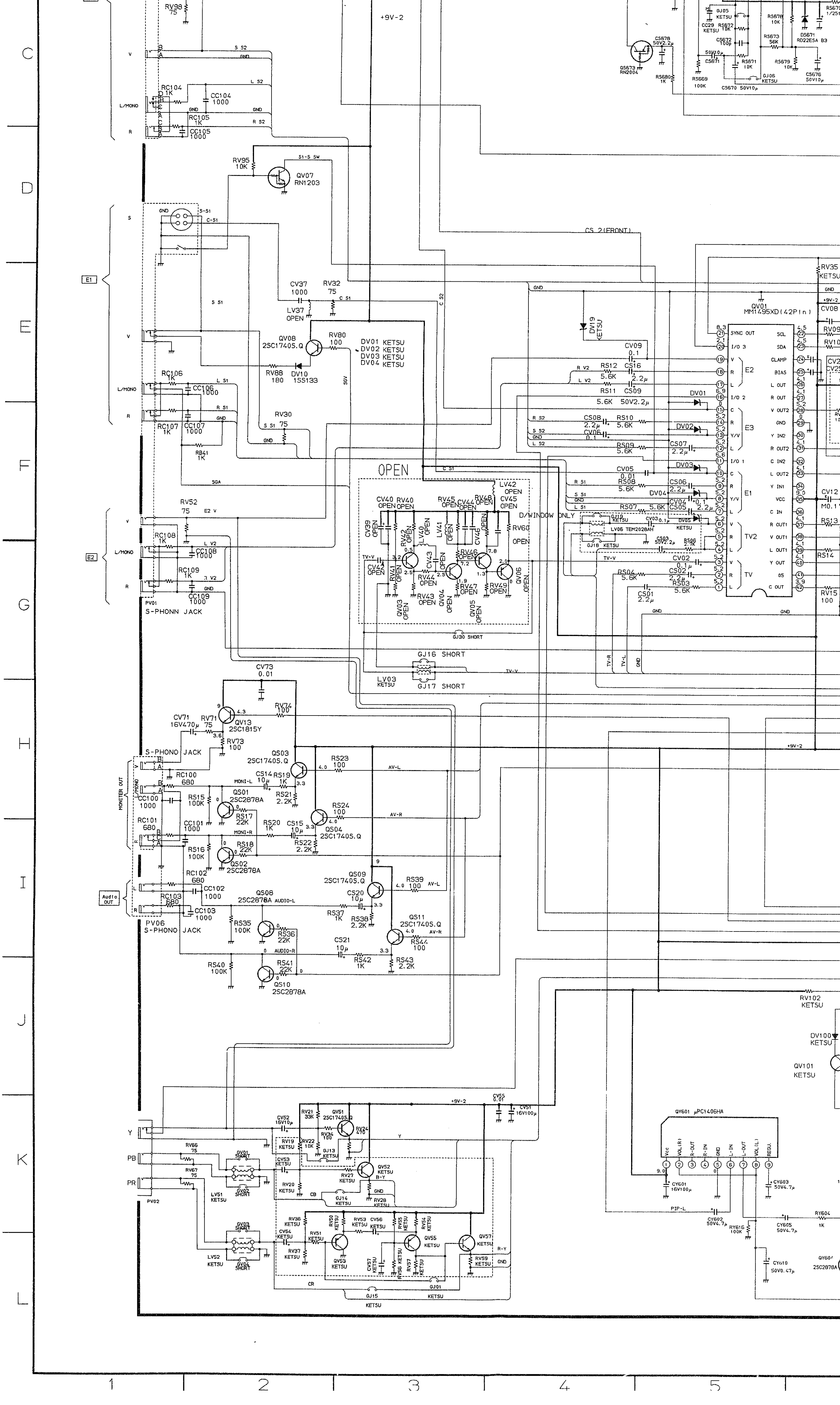
	UXC	OTHER
CC100	1000P	KETSU
CC101		
CC102		
CC103		
CC104		
CC105		
CC106		
CC107		
CC108		
CC109		
CC669	↓	↓
RC100	680	SHORT
RC101		
RC102		
RC103	↓	
RC104	1K	
RC105		
RC106		
RC107		
RC108		
RC109		
RC665	↓	↓

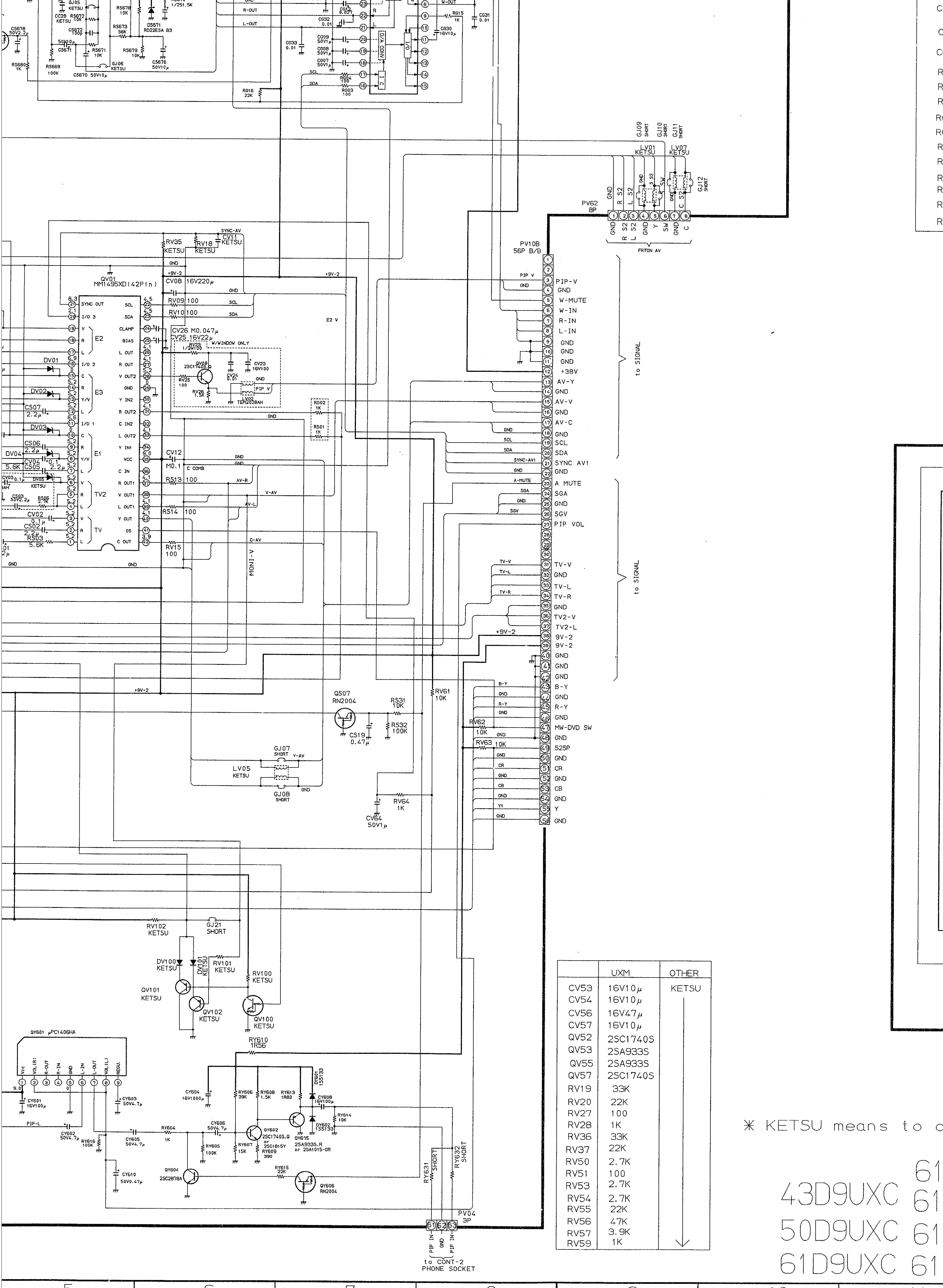
PB9746	PB9746D	PB9904
50D9UXE	43D9UXC	50D9UXM
50D9UXA	50D9UXC	61D9UXM
50D9UXH	61D9UXC	
61D9UXE		
61D9UXA		
61D9UXH		

TEXT (UXE/UXA/UXM)



CASE
A-GND
D-GND
LF15 P008
LF14 P009
CF14 0.01μ
LF11 TRF41R0AF
LF13 TRF4100AF
CF04 100μ
CF05 100μ
+5V-3
VSA
VSD
RF14 100
LF10 TRF4109AJ
CF03 M0.1
QF01
SDA5273-2SC30-12 or SDA5273-3S
RF13 100
LF09 TRF4100AJ
RF12 100
LF08 TRF4100AJ
RF26 P1K
RF11 10K
RF10 10
RF09 10
RF08 10
INTQ
IICEN
SDA
SCL
CORQ
BLAN
B
G
R
VSS1
RGB GND
VSSA2
VSS2
VBB
VSS3
CASQ
VSS4
D3
D2
TCSQ
VS
HS
XOUT
XIN
GPO
TM
CVBS
VDD1
VDDA
VSSA1
VDD2
RES
VDD3
VREF
VDD4
A8
A7
CF06 22P(CH)
CF07 22P(CH)
XF01 20.48MHz
CF08 M0.1
CF09 M0.1
RF15 P10K
CF10 10μ
CF11 0.1μ
RF16
RF27 OPEN
RF38 OPEN
QF02 OPEN
RF28 OPEN
DF02 OPEN
RF29 OPEN
RF24 OPEN
RF30 OPEN
QF06 OPEN
RF01 3.3K
GJ01 OPEN
RF04 22K
QF04 2SC752G
RF03 6.8K
RF02 10K
GJ02 OPEN
RF06 1K
QF05


C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
RV98 75
+9V-2
S S2
GND
L S2
R S2
V
L/MONO
R
RC104 1K
CC104 1000
RC105 1K
CC105 1000
RV95 10K
S1-S SW
QV07 RN1203
S
GND
S-S1
C-S1
E1
S S1
CV37 1000
RV32 75
C S1
LV37 OPEN
QV08 2SC1740S.Q
RV80 100
DV01 KETSU
DV02 KETSU
DV03 KETSU
DV04 KETSU
RV88 180
DV10 1SS133
RC106 1K
CC106 1000
L S1
R S1
RC107 1K
CC107 1000
RB41 1K
RV30 75
SGV
SGA
C S2
CS 2(FRONT)
GND
DV19 KETSU
QV01 MM1495XD(42Pin)
RV35 KETSU
CV08
CV09 0.1
RS12 5.6K
CS16 2.2μ
RS11 5.6K
CS09 50V2.2μ
R V2
L V2
DV01
CS08 2.2μ
RS10 5.6K
CV06 0.1
DV02
RS09 5.6K
CS07 2.2μ
DV03
CV05 0.01
RS08 5.6K
CS06 2.2μ
DV04
RS07 5.6K
CV04 0.1
CS05 2.2μ
D/WINDOW ONLY
GJ19 KETSU
CV03 0.1μ
DV05 KETSU
LV06 TEM2028AH
GJ18 KETSU
CS03 50V2.2μ
RS06 2.7K
TV-V
CV02 0.1μ
RS04 5.6K
CS02 2.2μ
RS03 5.6K
CS01 2.2μ
SYNC OUT
I/O 3
V
R
L
I/O 2
C
Y/V
I/O 1
E2
E3
E1
TV2
TV
SCL
SDA
CLAMP
BIAS
L OUT
R OUT
V OUT2
GND
Y IN2
R OUT2
C IN2
L OUT2
Y IN1
VCC
C IN
R OUT1
V OUT1
L OUT1
Y OUT
DS
C OUT
RV09
RV10
CV12
M0.1
RS13
RS14
RV15 100
OPEN
LV42 OPEN
CV45 OPEN
CV40 OPEN
RV40 OPEN
RV45 OPEN
CV44 OPEN
RV46 OPEN
CV39 OPEN
RV42 OPEN
LV40 OPEN
LV41 OPEN
CV43 OPEN
CV46 OPEN
RV60 OPEN
CV42 OPEN
RV41 OPEN
RV44 OPEN
RV48 OPEN
RV47 OPEN
RV49 OPEN
QV06 OPEN
QV03 OPEN
RV43 OPEN
QV04 OPEN
QV05 OPEN
GJ30 SHORT
GJ16 SHORT
GJ17 SHORT
LV03 KETSU
TV-R
TV-L
TV-V
E2
RV52 75
E2 V
RC108 1K
CC108 1000
RC109 1K
CC109 1000
L V2
R V2
PV01
S-PHONN JACK
CV73 0.01
RV74 100
CV71 16V470μ
RV71 75
QV13 2SC1815Y
RV73 100
S-PHONO JACK
MONITER OUT
QS03 2SC1740S.Q
RS23 100
AV-L
RC100 680
CC100 1000
MONI-L
CS14 10μ
RS19 1K
RS15 100K
QS01 2SC2878A
RS21 2.2K
RS17 22K
RS24 100
AV-R
RC101 680
CC101 1000
MONI-R
RS20 1K
CS15 10μ
QS04 2SC1740S.Q
RS16 100K
RS18 22K
RS22 2.2K
QS02 2SC2878A
QS09 2SC1740S.Q
RS39 100
RC102 680
CC102 1000
QS08 2SC2878A
AUDIO-L
CS20 10μ
Audio OUT
RC103 680
CC103 1000
RS37 1K
RS38 2.2K
QS11 2SC1740S.Q
RS35 100K
RS36 22K
RS44 100
PV06
S-PHONO JACK
CS21 10μ
AUDIO-R
RS40 100K
RS41 22K
RS42 1K
RS43 2.2K
QS10 2SC2878A
+9V-2
RV102 KETSU
DV100 KETSU
QV101 KETSU
CV55 0.01
CV51 16V100μ
Y
PB
PR
PV02
RV66 75
RV67 75
GV01 SHORT
GV02 SHORT
LV51 KETSU
CV52 16V10μ
RV21 33K
QV51 2SC1740S.Q
RV24 470
RV19 KETSU
RV22 10K
RV34 100
GJ13 KETSU
CV53 KETSU
QV52 KETSU
RV27 KETSU
B-Y
RV20 KETSU
CB
GJ14 KETSU
RV28 KETSU
GND
RV36 KETSU
RV50 KETSU
RV53 KETSU
CV56 KETSU
RV55 KETSU
RV54 KETSU
CV54 KETSU
RV51 KETSU
QV53 KETSU
QV55 KETSU
QV57 KETSU
R-Y
GV03 SHORT
GV04 SHORT
LV52 KETSU
RV37 KETSU
CV57 KETSU
RV56 KETSU
RV57 KETSU
RV59 KETSU
CR
GJ01
GJ15 KETSU
KETSU
QY601 μPC1406HA
Vcc
VOL(R)
R-OUT
R-IN
GND
L-IN
L-OUT
VOL(L)
REDU.
CY601 16V100μ
CY603 50V4.7μ
PIP-L
CY602 50V4.7μ
RY616 100K
CY605 50V4.7μ
RY604 1K
CY610 50V0.47μ
QY604 2SC2878A
QS673 RN2004
CS678 50V2.2μ
RS680 1K
RS669 100K
CS670 50V10μ
GJ05 KETSU
CC29 KETSU
RS672 10K
CS672 100p
CS671 50V10μ
RS671 10K
GJ06 KETSU
RS676 10K
RS673 56K
DS671 RD22ESA B3
RS679 10K
CS676 50V10μ



QV01
MM1495XD(42Pin)
SYNC OUT
I/O 3
I/O 2
I/O 1
E2
E3
E1
TV2
TV
SCL
SDA
CLAMP
BIAS
L OUT
R OUT
V OUT2
Y IN2
C IN2
R OUT2
L OUT2
Y IN1
VCC
C IN
R OUT1
V OUT1
L OUT1
Y OUT
DS
C OUT
RV35 KETSU
RV18 KETSU
CV11 KETSU
SYNC-AV
+9V-2
CV08 16V220μ
RV09 100
RV10 100
CV26 M0.047μ
CV25 16V22μ
W/WINDOW ONLY
RV23 1/2W100
QV09 2SC1740S,Q
RV25 100
RV26 1.5K
CV24 0.01
CV23 16V100
LV02 TEM2028AH
PIP V
RS02 1K
RS01 1K
CV12 M0.1
C COMB
RS13 100
RS14 100
RV15 100
AV-R
AV-L
V-AV
C-AV
MONI-V
DV01
DV02
DV03
DV04
DV05 KETSU
CS07 2.2μ
CS06 2.2μ
CV04 0.1
CS05 2.2μ
CV02 0.1μ
CS02 2.2μ
RS03 5.6K
PV10B 56P B/B
PIP-V
W-MUTE
W-IN
R-IN
L-IN
+38V
AV-Y
AV-V
AV-C
SYNC AV1
A MUTE
SGA
SGV
PIP VOL
TV-V
TV-L
TV-R
TV2-V
TV2-L
9V-2
B-Y
R-Y
MW-DVD SW
525P
CR
CB
Y
to SIGNAL
PV62 8P
GJ09 SHORT
GJ10 SHORT
GJ11 SHORT
LV01 KETSU
LV07 KETSU
GJ12 SHORT
R S2
L S2
SW
C S2
FRTON AV
W-OUT
R-OUT
L-OUT
D/A CONV
I/O
I C
RG15 1K
CG31 0.01
CG30 16V10μ
CG32 0.01
CG33 0.01
CG09 50V1μ
CG08 50V1μ
CG07 50V1μ
RG04 100
RG03 100
RG16 22K
SCL
SDA
D5671 RD22ESA B3
RS678 10K
RS673 56K
RS679 10K
RS669 100K
RS680 1K
CS678 50V2.2μ
CS676 50V10μ
CS670 50V10μ
GJ05 KETSU
GJ06 KETSU
QS07 RN2004
RS31 10K
RS32 100K
CS19 0.47μ
RV61 10K
RV62 10K
RV63 10K
GJ07 SHORT
Y-AV
LV05 KETSU
GJ08 SHORT
RV64 1K
CV64 50V1μ
RV102 KETSU
GJ21 SHORT
DV100 KETSU
DV101 KETSU
RV101 KETSU
RV100 KETSU
QV101 KETSU
QV102 KETSU
QV100 KETSU
QY601 μPC1406HA
Vcc
VOL(R)
R-OUT
R-IN
GND
L-IN
L-OUT
VOL(L)
REGU.
CY601 16V100μ
CY602 50V4.7μ
CY603 50V4.7μ
PIP-L
RY616 100K
CY605 50V4.7μ
RY604 1K
CY610 50V0.47μ
QY604 2SC2878A
CY604 16V1000μ
RY610 1R56
RY606 39K
RY608 1.5K
RY613 1R82
DY601 1SS133
CY606 50V4.7μ
RY605 100K
QY602 2SC1740S,Q or 2SC1815Y
RY607 15K
RY609 390
QY615 2SA933S,R or 2SA1015-GR
CY608 16V100μ
RY614 10K
DY602 1SS133
RY615 22K
QY606 RN2004
RY631 SHORT
RY632 SHORT
PV04 3P
PIP IN
GND
PIP IN
to CONT-2 PHONE SOCKET
5
6
7
8
9
10
11

	UXM	OTHER
CV53	16V10μ	KETSU
CV54	16V10μ	↓
CV56	16V47μ	
CV57	16V10μ	
QV52	2SC1740S	
QV53	2SA933S	
QV55	2SA933S	
QV57	2SC1740S	
RV19	33K	
RV20	22K	
RV27	100	
RV28	1K	
RV36	33K	
RV37	22K	
RV50	2.7K	
RV51	100	
RV53	2.7K	
RV54	2.7K	
RV55	22K	
RV56	47K	
RV57	3.9K	
RV59	1K	

✳ KETSU means to c

61

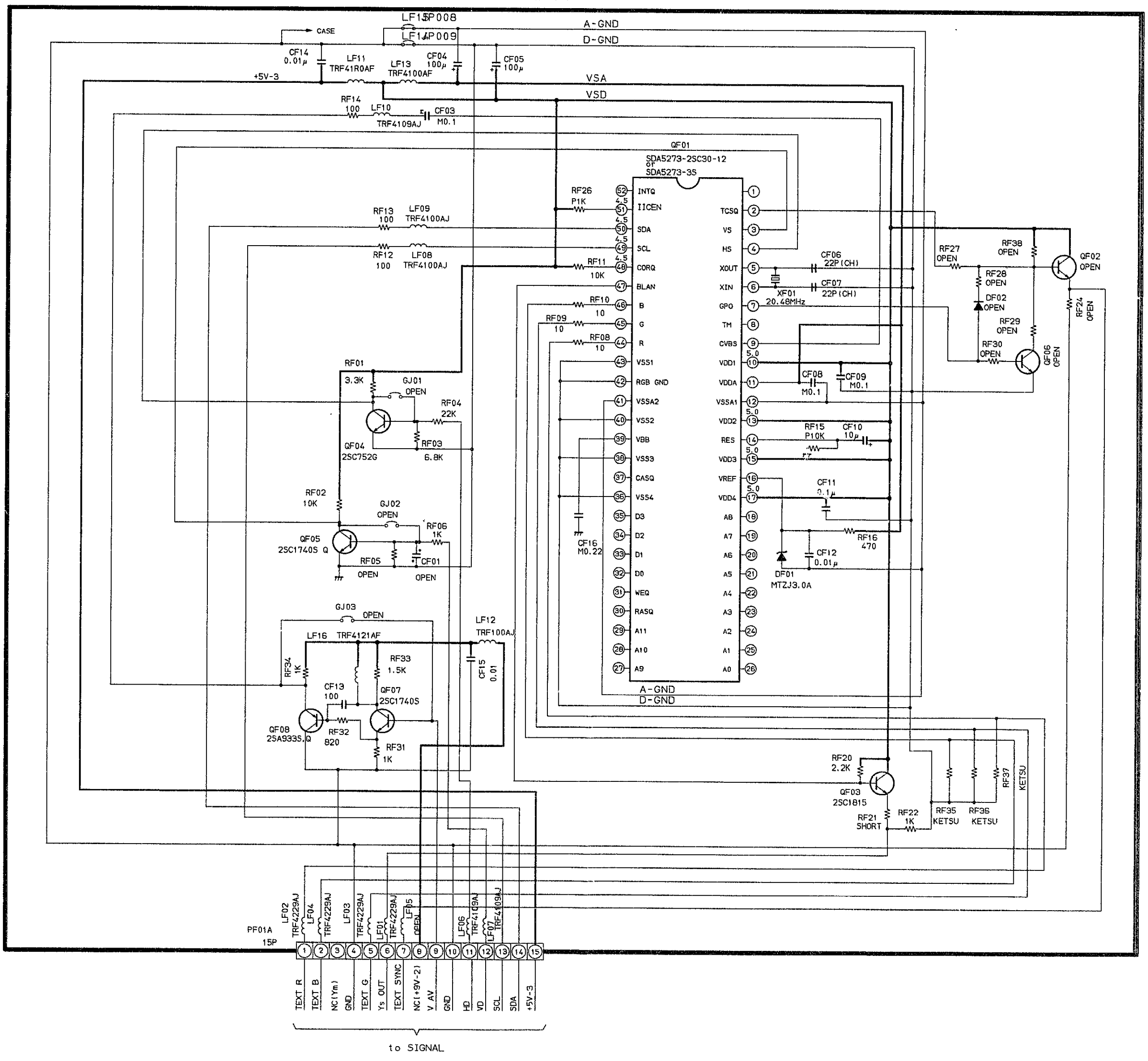
43D9UXC 61

50D9UXC 61

61D9UXC 61

CC108	↓	↓
CC109		
CC669	↓	↓
RC100	680	SHORT
RC101		
RC102		
RC103	↓	
RC104	1K	
RC105		
RC106		
RC107		
RC108		
RC109		
RC665	↓	↓

TEXT (UXE/UXA/UXM)



LF15 P008
LF14 P009
CASE
A-GND
D-GND
CF14 0.01μ
LF11 TRF41R0AF
LF13 TRF4100AF
CF04 100μ
CF05 100μ
+5V-3
VSA
VSD
RF14 100
LF10 TRF4109AJ
CF03 M0.1
QF01 SDA5273-2SC30-12 or SDA5273-3S
RF26 P1K
RF13 100
LF09 TRF4100AJ
RF12 100
LF08 TRF4100AJ
RF11 10K
RF10 10
RF09 10
RF08 10
INTQ
IICEN
SDA
SCL
CORQ
BLAN
B
G
R
VSS1
RGB GND
VSSA2
VSS2
VBB
VSS3
CASQ
VSS4
D3
D2
D1
D0
WEQ
RASQ
A11
A10
A9
TCSQ
VS
HS
XOUT
XIN
GPO
TM
CVBS
VDD1
VDDA
VSSA1
VDD2
RES
VDD3
VREF
VDD4
A8
A7
A6
A5
A4
A3
A2
A1
A0
CF06 22P(CH)
CF07 22P(CH)
XF01 20.48MHz
CF08 M0.1
CF09 M0.1
RF15 P10K
CF10 10μ
CF11 0.1μ
RF16 470
CF12 0.01μ
DF01 MTZJ3.0A
CF16 M0.22
RF27 OPEN
RF38 OPEN
RF28 OPEN
DF02 OPEN
RF29 OPEN
RF30 OPEN
QF02 OPEN
QF06 OPEN
RF24 OPEN
RF01 3.3K
GJ01 OPEN
RF04 22K
QF04 2SC752G
RF03 6.8K
RF02 10K
GJ02 OPEN
RF06 1K
QF05 2SC1740S Q
RF05 OPEN
CF01 OPEN
GJ03 OPEN
LF16 TRF4121AF
LF12 TRF100AJ
RF34 1K
RF33 1.5K
CF15 0.01
CF13 100
QF07 2SC1740S
QF08 2SA933S.Q
RF32 820
RF31 1K
RF20 2.2K
QF03 2SC1815
RF21 SHORT
RF22 1K
RF35 KETSU
RF36 KETSU
RF37 KETSU
LF02 TRF4229AJ
LF04 TRF4229AJ
LF03
LF01 TRF4229AJ
LF05 OPEN
LF06 TRF4109AJ
LF07 TRF4109AJ
PF01A 15P
TEXT R
TEXT B
NC(Ym)
GND
TEXT G
Ys OUT
TEXT SYNC
NC(+9V-2)
V AV
GND
HD
VD
SCL
SDA
+5V-3
to SIGNAL

means to open the circuit.

61D9UXE 50D9UXE
)9UXC 61D9UXA 50D9UXA
)9UXC 61D9UXH 50D9UXH
)9UXC 61D9UXM 50D9UXM

BACK A/V
TEXT
50D9U SERIES

PK3269

SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (6/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

40200009

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

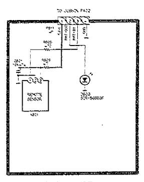
NOTES:

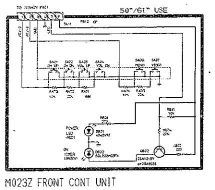
1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

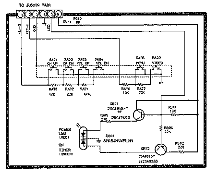
1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.


M021Z RMT IN UNIT

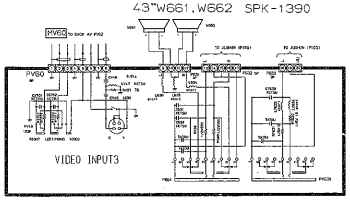


M023Z FRONT CONT UNIT

43" ONLY


M024Z FRONT CONT UNIT

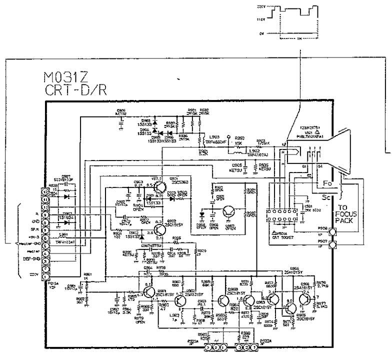
50"/61" W661,W662 SPK-1235
43"W661,W662 SPK-1390



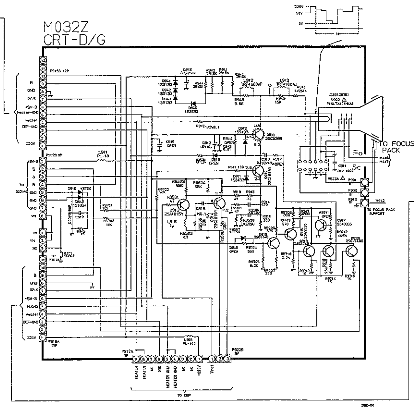
M022Z FRONT IN UNIT

	DLTV MODEL	OTHER MODEL
C631	0.01	KETSU
C632	0.01	KETSU
CY630	0.01	KETSU
CS701	1000P	KETSU
CS702	1000P	KETSU
L634	TFM2011※※	SHORT
L636	TEM2011※※	SHORT
LY633	PL-2.2	SHORT
LY634	PL-2.2	SHORT
RS701	1K	SHORT
RS702	1K	SHORT

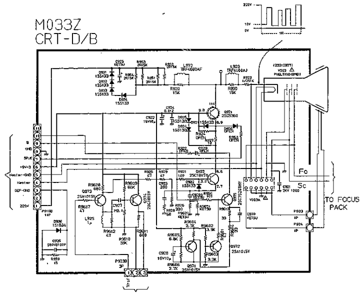
	50D9UXE 50D9UXH 50D9UXA 50D9UXM 61D9UXE 61D9UXH 61D9UXA 61D9UXM	50D9UXC 61D9UXC	43D9UXC	
M021Z RMT IN	PB9092-1	PB9092D-1	PB9092F-1	
M022 FRONT IN	PB9092-2	PB9092D-2	PB9092F-2	
M023Z FRONT CON	PB9092-3	PB9092D-3	———	
M024Z FRONT CON	———	———	PB9092F-4	



M031Z CRT-D/R

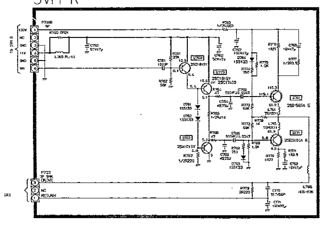


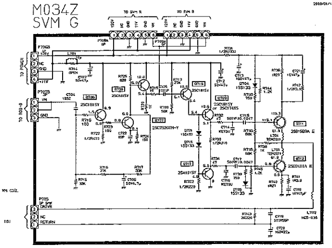
M032Z CRT-D/G

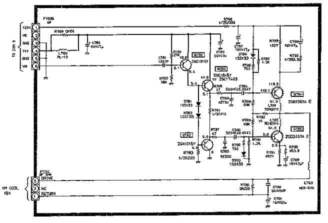


M033Z CRT-D/B

CRT-D/R	PB9752-1	PB9753-1	PB9752D-1	PB9752F-1	PB9752G-1
CRT-D/G	PB9752-2	PB9753-2	PB9752D-2	PB9752F-2	PB9752G-2
CRT-D/B	PB9752-3	PB9753-3	PB9752D-3	PB9752F-3	PB9752G-3
SVM-G	PB9752-4	PB9753-4	PB9752D-4	PB9752F-4	PB9752G-4
SVM-R	PB9752-5	PB9753-5	PB9752D-5	PB9752F-5	PB9752G-5
SVM-B	PB9752-6	PB9753-6	PB9752D-6	PB9752F-6	PB9752G-6
MODEL	50D9UXE 50D9UXA 50D9UXM 50D9UXH	61D9UXE 61D9UXA 61D9UXM 61D9UXH	43D9UXC	50D9UXC	61D9UXC


M035Z SVM R


M034Z SVM G


M036Z SVM B

43D9UXC
50D9UXC.
61D9UXC

50D9UXE.
50D9UXH.
50D9UXR.
50D9UXA.
50D9UXM.

61D9UXE
61D9UXH
61D9UXA
61D9UXR
61D9UXM

※ KETSU means to open the circuit.

CRT-D
SVM
FRONT
50D9U SERIES

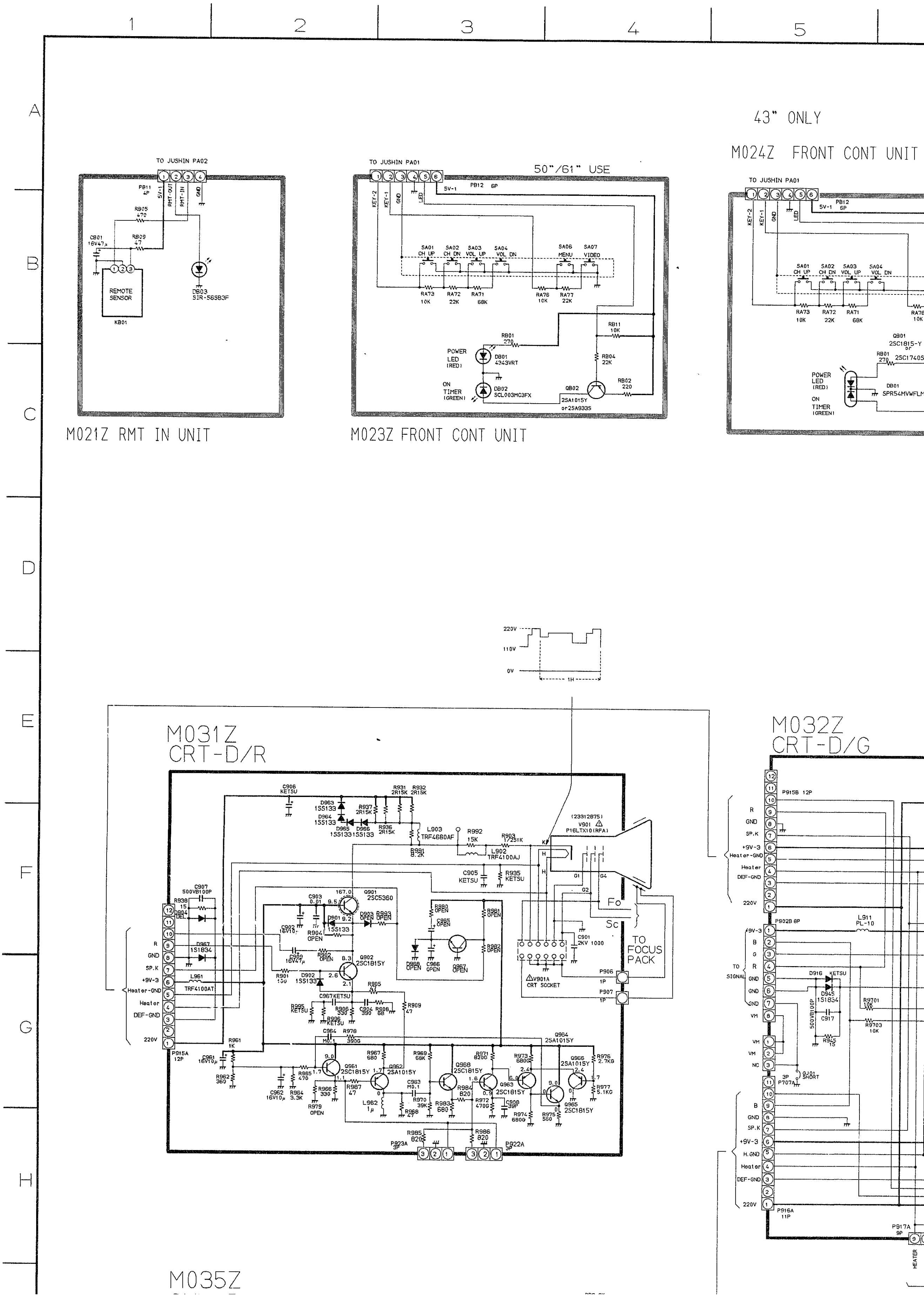
SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (6/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to ch
volts, colour bar signal. Voltages reading may va
2. All waveforms are taken using a wide band oscillos
3. Waveforms are taken using a standard colour bar
4. Make sure that CONTRAST and COLOUR cont
BRIGHTNESS control is almost in maximum posit
picture.

40200009



1
2
3
4
5
A
B
C
D
E
F
G
H
43" ONLY
M024Z FRONT CONT UNIT
TO JUSHIN PA02
TO JUSHIN PA01
50"/61" USE
REMOTE SENSOR
KB01
DB03 SIR-565B3F
POWER LED (RED)
ON TIMER (GREEN)
DB01 4343VRT
DB02 SCL003MC3FX
QB02 2SA1015Y or 2SA933S
SA01 CH UP
SA02 CH DN
SA03 VOL UP
SA04 VOL DN
SA06 MENU
SA07 VIDEO
M021Z RMT IN UNIT
M023Z FRONT CONT UNIT
Q801 2SC1815-Y or 2SC1740S
DB01 SPR54MVWFLM
220V
110V
0V
1H
M031Z CRT-D/R
M032Z CRT-D/G
V901 P16LTX10(RFA)
V901A CRT SOCKET
TO FOCUS PACK
Q901 2SC5360
Q902 2SC1815Y
L903 TRF4680AF
L902 TRF4100AJ
L961 TRF4100AT
P915A 12P
P915B 12P
P922A 3P
P923A 3P
P916A 11P
P917A 9P
TO SIGNAL
M035Z

ES AND WAVEFORMS

from point shown to chassis ground, line voltage 220
oltages reading may vary ±20%.
ing a wide band oscilloscope and a low capacity probe.
g a standard colour bar signal.
ST and COLOUR controls are in mid position and
nost in maximum position. Set other controls for best

NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EX

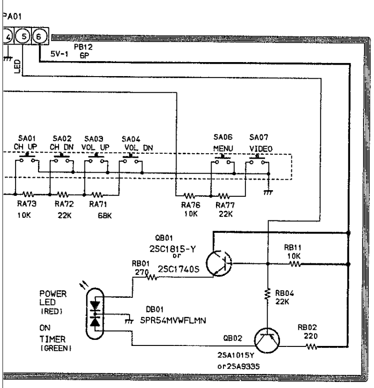
VA

1. I
2. U
s
3. U
s

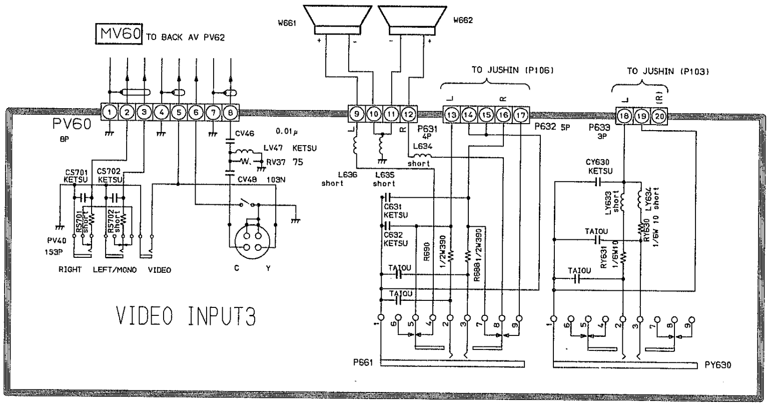
5 6 7 8 9 10 11

ONLY

FRONT CONT UNIT


PA01
PB12 6P
5V-1
LED
SA01 CH UP
SA02 CH DN
SA03 VOL UP
SA04 VOL DN
SA06 MENU
SA07 VIDEO
RA73 10K
RA72 22K
RA71 68K
RA76 10K
RA77 22K
QB01 2SC1815-Y or 2SC1740S
RB01 270
RB11 10K
RB04 22K
RB02 220
POWER LED (RED)
ON TIMER (GREEN)
DB01 SPR54MVWFLMN
QB02 2SA1015Y or2SA9335

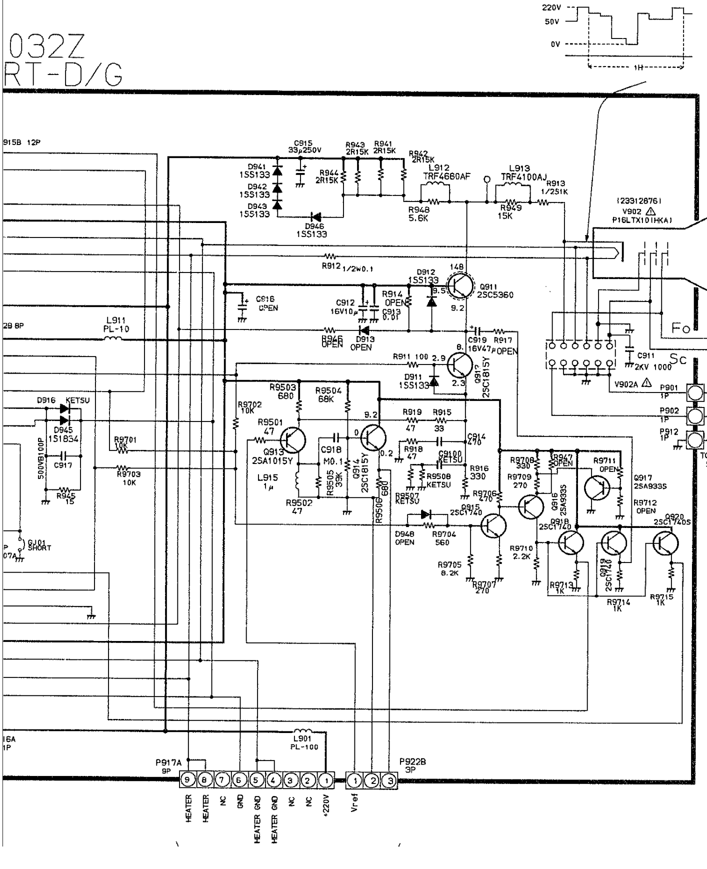
50"/61" W661,W662 SPK-1235
43"W661,W662 SPK-1390


W661
W662
MV60 TO BACK AV PV62
TO JUSHIN (P106)
TO JUSHIN (P103)
PV60 8P
CV46 0.01µ
LV47 KETSU
RV37 75
CV48 103N
CS701 KETSU
CS702 KETSU
RS701 short
RS702 short
PV40 153P
RIGHT LEFT/MONO VIDEO
C Y
VIDEO INPUT3
P691 4P
L634 short
L636 short
L635 short
P632 5P
P633 3P
C631 KETSU
C632 KETSU
R690 1/2W390
R6801/2W390
TAIOU
CY630 KETSU
LY633 short
LY634 short
RY630 1/6W 10 short
RY631 1/6W10
P661
PY630

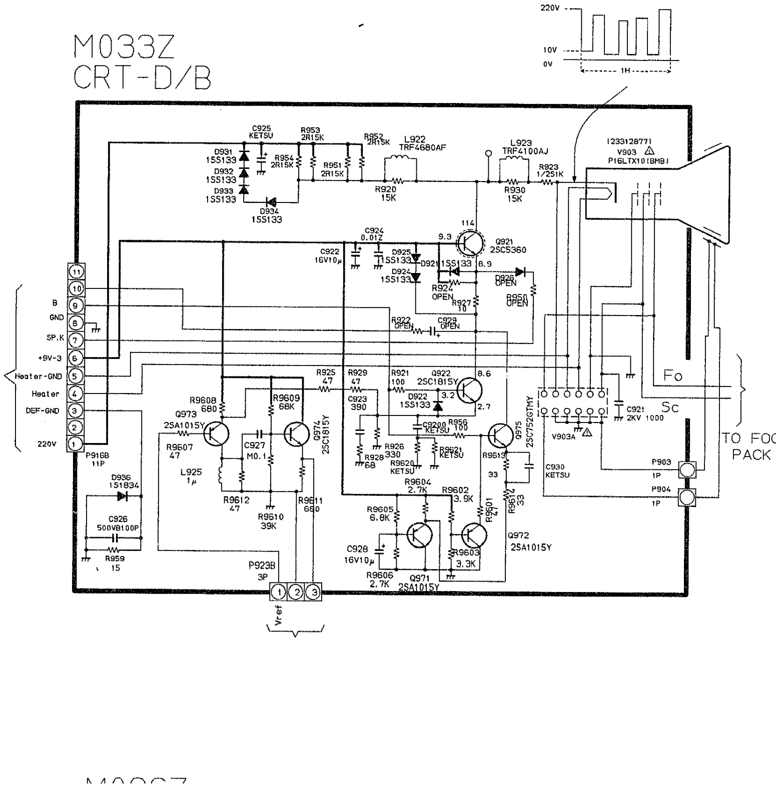
M022Z FRONT IN UNIT

	DLTV MODEL	O
C631	0.01	K
C632	0.01	K
CY630	0.01	K
CS701	1000P	K
CS702	1000P	K
L634	TFM2011✱✱	S
L636	TEM2011✱✱	S
LY633	PL-2.2	
LY634	PL-2.2	
RS701	1K	S
RS702	1K	S

M032Z
CRT-D/G


220V
50V
0V
1H
P915B 12P
C915 33,250V
R943 2R15K
R941 2R15K
R942 2R15K
D941 1SS133
D942 1SS133
D943 1SS133
R944 2R15K
L912 TRF4680AF
L913 TRF4100AJ
R913 1/251K
D946 1SS133
R948 5.6K
R949 15K
(2331287G1) V902 ⚠ P16LTX101HKA)
R912 1/2W0.1
D912 1SS133
Q911 2SC5360
C916 OPEN
C912 16V10µ
R914 OPEN
C913 0.01
R946 OPEN
D913 OPEN
L911 PL-10
C919 16V47µ
R917 OPEN
R911 100
D911 1SS133
Q919 2SC1815Y
C911 2KV 1000
V902A ⚠
TO FOCUS PACK
Fo
Sc
M418
M417
P901 1P
P902 1P
P912 1P
M912
TO FOCUS PACK SUPPORT
D916 KETSU
D945 1S1834
C917
R945 15
R9701 10K
R9703 10K
R9702 10K
R9503 680
R9504 68K
R9501 47
Q913 2SA1015Y
C918 M0.1
L915 1µ
R9502 47
R9505 39K
Q914 2SC1815Y
R9506 680
R919 47
R915 33
C914 270
R918 47
C9100 KETSU
R9508 KETSU
R9507 KETSU
R916 330
R9706 470
D948 OPEN
R9704 560
Q915 2SC1740
R9705 8.2K
R9707 270
R9708 330
R9709 270
R9710 2.2K
Q916 2SA9335
Q918 2SC1740
R9713 1K
Q917 2SA9335
R9711 OPEN
R9712 OPEN
Q920 2SC1740S
R9714 1K
R9715 1K
Q919 2SC1740
L901 PL-100
P917A 9P
P922B 3P
HEATER HEATER NC GND HEATER GND HEATER GND NC NC +220V
Vref

M033Z
CRT-D/B


220V
10V
0V
1H
C925 KETSU
R953 2R15K
R952 2R15K
L922 TRF4680AF
L923 TRF4100AJ
(2331287?1) V903 ⚠ P16LTX101BMB)
R923 1/251K
D931 1SS133
D932 1SS133
D933 1SS133
R954 2R15K
R951 2R15K
R920 15K
R930 15K
D934 1SS133
C924 0.01Z
Q921 2SC5360
C922 16V10µ
D925 1SS133
D921 1SS133
D924 1SS133
R924 OPEN
R927 10
R926 OPEN
R950 OPEN
R922 OPEN
C923 OPEN
B GND SP.K +9V-3 Heater-GND Heater DEF-GND 220V
R925 47
R929 47
C923 390
R921 100
Q922 2SC1815Y
D922 1SS133
C9200 KETSU
R956 100
R9608 680
R9609 68K
Q973 2SA1015Y
Q974 2SC1815Y
R9607 47
C927 M0.1
L925 1µ
R9612 47
R9611 680
R9610 39K
R928 68
R926 330
R9620 KETSU
R9621 KETSU
R9604 2.7K
R9602 3.9K
R9601 47
R9613 33
Q975 2SC752GTMY
C921 2KV 1000
V903A ⚠
Fo
Sc
TO FOCUS PACK
C930 KETSU
P903 1P
P904 1P
Q972 2SA1015Y
P916B 11P
D936 1S1834
C926 500V8100P
R959 15
R9605 6.8K
C928 16V10µ
R9606 2.7K
Q971 2SA1015Y
R9603 3.3K
P923B 3P
Vref

atic dia-

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

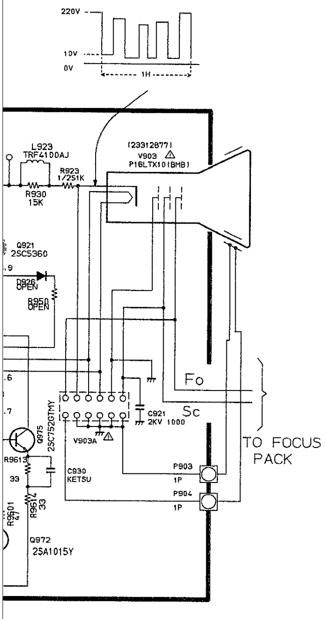
1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

11 12 13 14 15 16

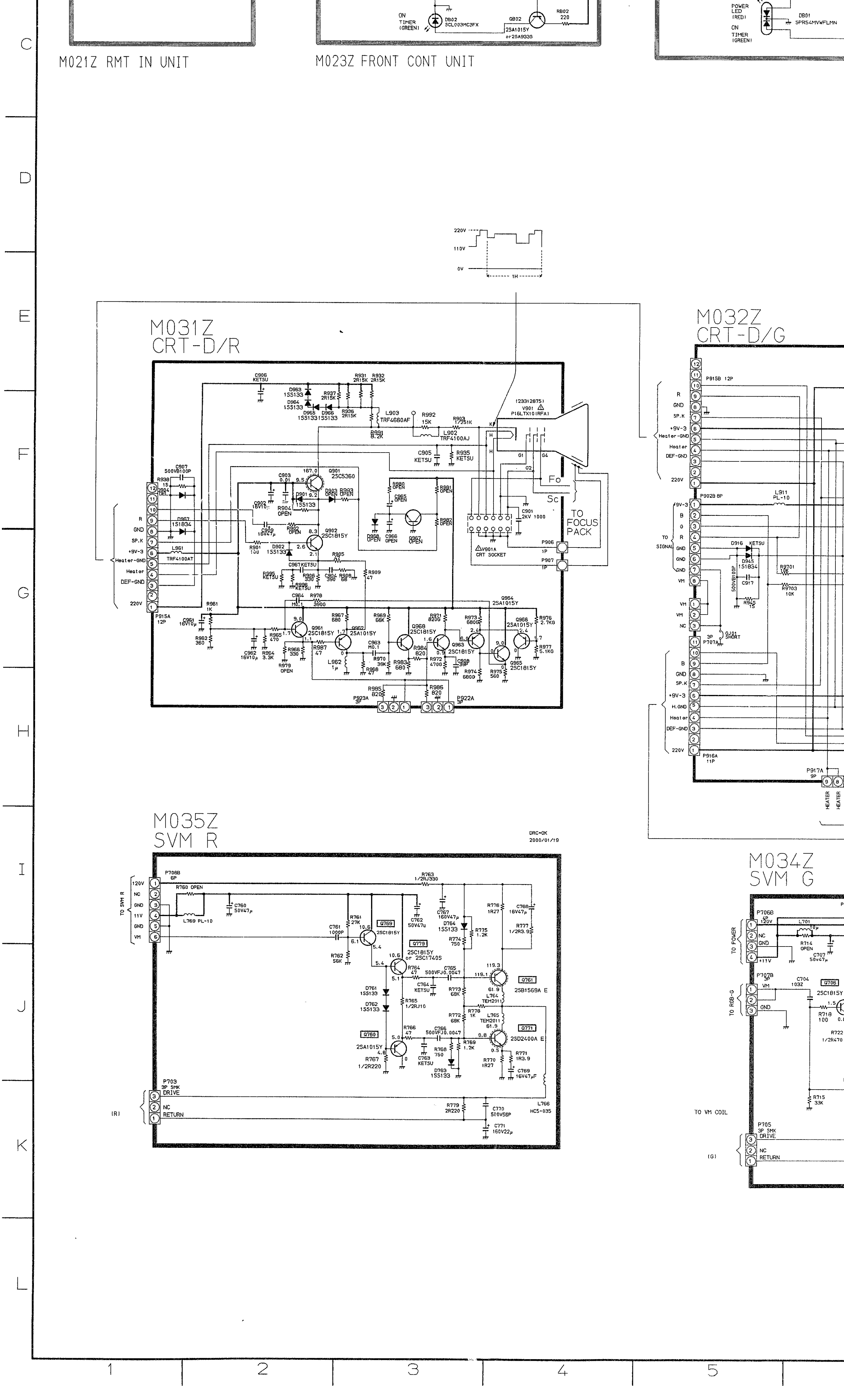
A B C D E F G H

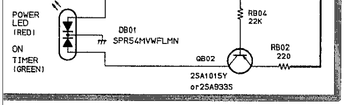
	DLTV MODEL	OTHER MODEL
C631	0.01	KETSU
C632	0.01	KETSU
CY630	0.01	KETSU
CS701	1000P	KETSU
CS702	1000P	KETSU
L634	TFM2011✱✱	SHORT
L636	TEM2011✱✱	SHORT
LY633	PL-2.2	SHORT
LY634	PL-2.2	SHORT
RS701	1K	SHORT
RS702	1K	SHORT

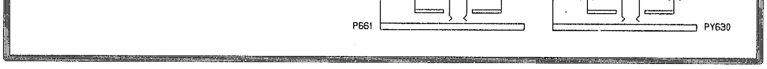
	50D9UXE 50D9UXH 50D9UXA 50D9UXM 61D9UXE 61D9UXH 61D9UXA 61D9UXM	50D9UXC 61D9UXC	43D9UXC	
M021Z RMT IN	PB9092-1	PB9092D-1	PB9092F-1	
M022 FRONT IN	PB9092-2	PB9092D-2	PB9092F-2	
M023Z FRONT CON	PB9092-3	PB9092D-3	———	
M024Z FRONT CON	———	———	PB9092F-4	


220V
10V
0V
1H
L923
TRF4100AJ
R923
1/2S1K
R930
15K
(23312877)
V903 ⚠
P16LTX10(BMB)
Q921
2SC5360
.9
D926
OPEN
R950
OPEN
.6
.7
Q975
2SC752GTMY
R9613
33
R9614
33
R9601
47
Q972
2SA1015Y
V903A ⚠
C921
2KV 1000
C930
KETSU
P903
1P
P904
1P
Fo
Sc
TO FOCUS
PACK

CRT-D/R	PB9752-1	PB9753-1	PB9752D-1	PB9752F-1	PB9752G-1
CRT-D/G	PB9752-2	PB9753-2	PB9752D-2	PB9752F-2	PB9752G-2
CRT-D/B	PB9752-3	PB9753-3	PB9752D-3	PB9752F-3	PB9752G-3
SVM-G	PB9752-4	PB9753-4	PB9752D-4	PB9752F-4	PB9752G-4
SVM-R	PB9752-5	PB9753-5	PB9752D-5	PB9752F-5	PB9752G-5
SVM-B	PB9752-6	PB9753-6	PB9752D-6	PB9752F-6	PB9752G-6
MODEL	50D9UXE 50D9UXA 50D9UXM 50D9UXH	61D9UXE 61D9UXA 61D9UXM 61D9UXH	43D9UXC	50D9UXC	61D9UXC


M021Z RMT IN UNIT
M023Z FRONT CONT UNIT
ON TIMER (GREEN)
D802 SCL003MC3FX
Q802 2SA1015Y or 2SA933S
R802 220
POWER LED (RED)
ON TIMER (GREEN)
D801 SPR54MVWFLMN
220V
110V
0V
1H
M031Z CRT-D/R
P915A 12P
Heater-GND
Heater
DEF-GND
220V
Q901 2SC5360
Q902 2SC1815Y
L903 TRF4660AF
L902 TRF4100AJ
L961 TRF4100AT
V901 P16LTX10(RFA)
CRT SOCKET
TO FOCUS PACK
Fo
Sc
P906 1P
P907 1P
Q961 2SC1815Y
Q962 2SA1015Y
Q963 2SC1815Y
Q964 2SA1015Y
Q965 2SC1815Y
Q966 2SA1015Y
Q968 2SC1815Y
P923A 3P
P922A 3P
M032Z CRT-D/G
P915B 12P
P902B 8P
L911 PL-10
TO SIGNAL
P916A 11P
P917A 9P
HEATER
M035Z SVM R
DRC=OK 2000/01/19
P706B 6P
120V
NC
GND
11V
VM
TO SVM R
L769 PL-10
C760 50V47μ
Q769 2SC1815Y
Q770 2SC1815Y or 2SC1740S
Q760 2SA1015Y
Q761 2SB1569A E
Q771 2SD2400A E
L764 TEM2011
L765 TEM2011
L766 HC5-035
P703 3P SMK
DRIVE
RETURN
(R)
M034Z SVM G
P706B 4P
TO POWER
P707B 3P
TO RGB-G
Q706 2SC1815Y
TO VM COIL
P705 3P SMK
DRIVE
RETURN
(G)
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5

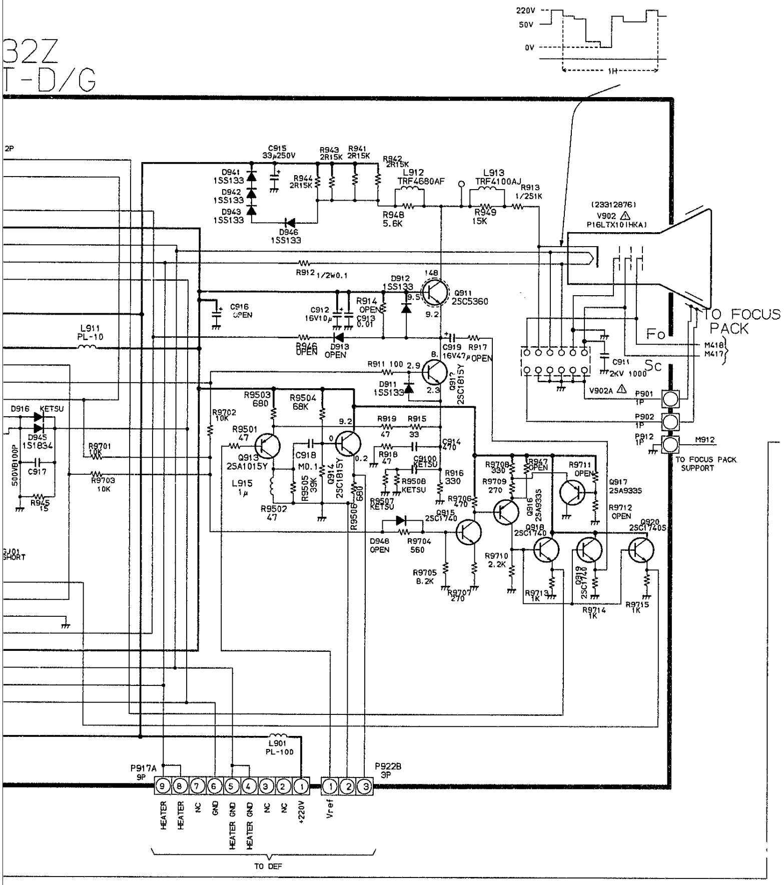

POWER LED (RED)
ON TIMER (GREEN)
D801 SPR54MVWFLMN
R804 22K
Q802 2SA1015Y or 2SA933S
R802 220



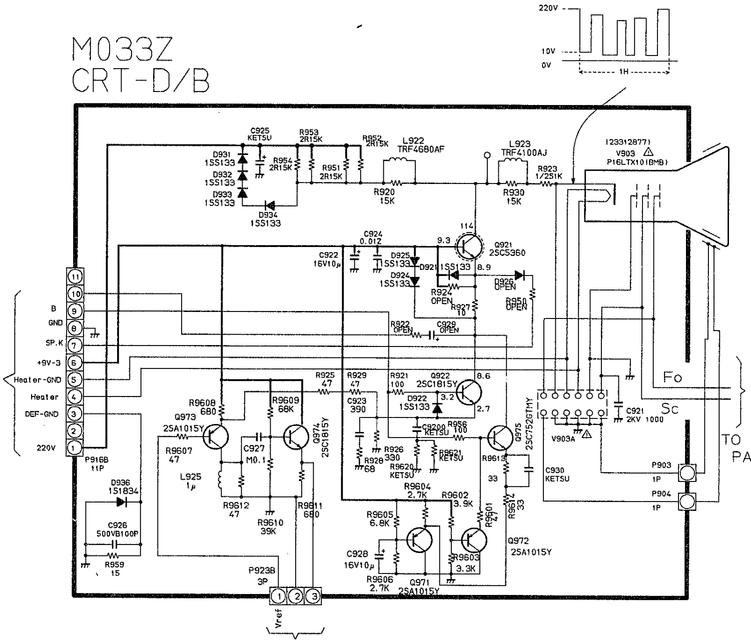
M022Z FRONT IN UNIT

LY634	PL-2.2	SHO
RS701	1K	SHO
RS702	1K	SHO

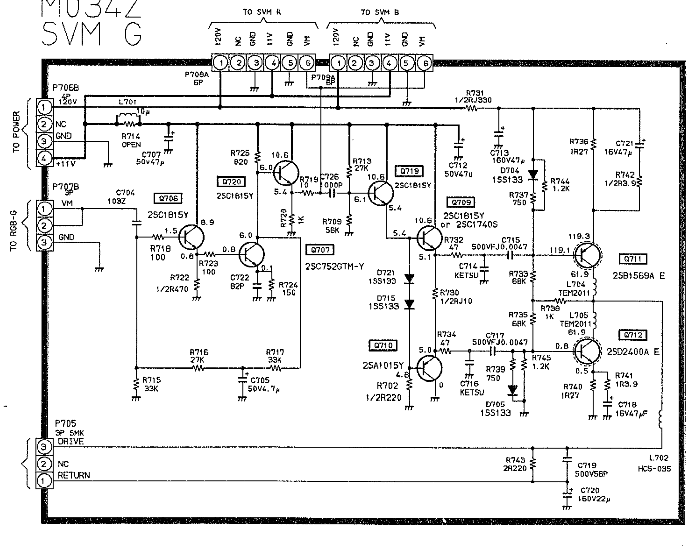
32Z
T-D/G


220V
50V
0V
1H
C915 33μ250V
R943 2R15K
R941 2R15K
R942 2R15K
L912 TRF4680AF
L913 TRF4100AJ
R913 1/251K
R949 15K
R948 5.6K
D941 1SS133
D942 1SS133
D943 1SS133
D946 1SS133
R944 2R15K
(23312876)
V902
P16LTX101HKA)
Q911 2SC5360
D912 1SS133
R912 1/2W0.1
C916 OPEN
C912 16V10μ
R914 OPEN
C913 0.01
L911 PL-10
R946 OPEN
D913 OPEN
C919
R917 16V47μ OPEN
R911 100
D911 1SS133
Q912 2SC1815Y
TO FOCUS PACK
Fo
Sc
M418
M417
C911 2KV 1000
V902A
P901 1P
P902 1P
P912 1P
M912
TO FOCUS PACK SUPPORT
D916 KETSU
D945 1S1834
500V B100P
C917
R945 15
R9702 10K
R9503 680
R9504 68K
R9501 47
Q913 2SA1015Y
C918 M0.1
L915 1μ
R9505 39K
Q914 2SC1815Y
R9506 680
R9502 47
R919 47
R915 33
R918 47
C9100 KETSU
R9508 KETSU
R9507 KETSU
C914 470
R916 330
R9706 470
R9708 330
R947 OPEN
R9711 OPEN
Q917 2SA933S
R9709 270
Q916 2SA933S
R9712 OPEN
Q915 2SC1740
D948 OPEN
R9704 560
Q918 2SC1740
Q919 2SC1740
Q920 2SC1740S
R9705 8.2K
R9707 270
R9710 2.2K
R9713 1K
R9714 1K
R9715 1K
R9701 10K
R9703 10K
SJ01 SHORT
L901 PL-100
P917A 9P
P922B 3P
HEATER
HEATER
NC
GND
HEATER GND
HEATER GND
NC
NC
+220V
Vref
TO DEF
DRC-OK
2000/01/19

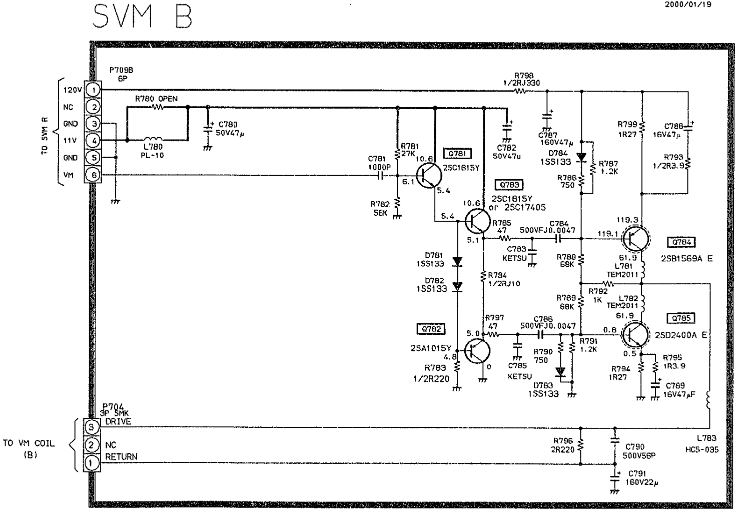
M033Z
CRT-D/B


220V
10V
0V
1H
C925 KETSU
R953 2R15K
R952 2R15K
L922 TRF4680AF
L923 TRF4100AJ
R923 1/251K
(23312877)
V903
P16LTX101BMB)
D931 1SS133
D932 1SS133
D933 1SS133
D934 1SS133
R954 2R15K
R951 2R15K
R920 15K
R930 15K
C924 0.01Z
C922 16V10μ
D925 1SS133
D924 1SS133
D921 1SS133
Q921 2SC5360
R924 OPEN
R927 10
D926 OPEN
R950 OPEN
B
GND
SP.K
+9V-3
Heater-GND
Heater
DEF-GND
220V
P916B 11P
R922 OPEN
C929 OPEN
R925 47
R929 47
C923 390
R921 100
Q922 2SC1815Y
D922 1SS133
Fo
Sc
C921 2KV 1000
V903A
TO FOCUS PACK
P903 1P
P904 1P
R9608 680
R9609 68K
Q973 2SA1015Y
R9607 47
Q974 2SC1815Y
C927 M0.1
L925 1μ
R9612 47
R9611 680
R9610 39K
D936 1S1834
C926 500VB100P
R959 15
P923B 3P
Vref
R928 68
R926 330
R9620 KETSU
C9200 KETSU
R956 100
R9621 KETSU
Q975 2SC752GTMY
R9613 33
R9601
C930 KETSU
R9604 2.7K
R9602 3.9K
R9605 6.8K
C928 16V10μ
R9606 2.7K
Q971 2SA1015Y
R9603 3.3K
Q972 2SA1015Y

M034Z
SVM G


TO SVM R
TO SVM B
120V
NC
GND
11V
GND
VM
P708A 6P
P709A 6P
P706B 4P
120V
NC
GND
+11V
TO POWER
L701
R714 OPEN
C707 50V47μ
R731 1/2RJ330
P707B 3P
VM
GND
TO RGB-G
C704 103Z
Q706 2SC1815Y
R718 100
R722 1/2R470
R725 820
Q720 2SC1815Y
R723 100
C722 82P
R724 150
R720 1K
R719 10
C726 1000P
R713 27K
Q719 2SC1815Y
R709 56K
Q707 2SC752GTM-Y
C712 50V47u
C713 160V47μ
D704 1SS133
R744 1.2K
R737 750
R736 1R27
C721 16V47μ
R742 1/2R3.9
Q709 2SC1815Y or 2SC1740S
R732 47
C715 500VFJ0.0047
C714 KETSU
R733 68K
Q711 2SB1569A E
L704 TEM2011
R730 1/2RJ10
D721 1SS133
D715 1SS133
R735 68K
R738 1K
L705 TEM2011
Q712 2SD2400A E
R734 47
C717 500VFJ0.0047
R739 750
C716 KETSU
R745 1.2K
R740 1R27
R741 1R3.9
C718 16V47μF
D705 1SS133
Q710 2SA1015Y
R702 1/2R220
R716 27K
R717 33K
R715 33K
C705 50V4.7μ
P705 3P SMK
DRIVE
NC
RETURN
R743 2R220
C719 500V56P
C720 160V22μ
L702 HC5-035

M036Z
SVM B

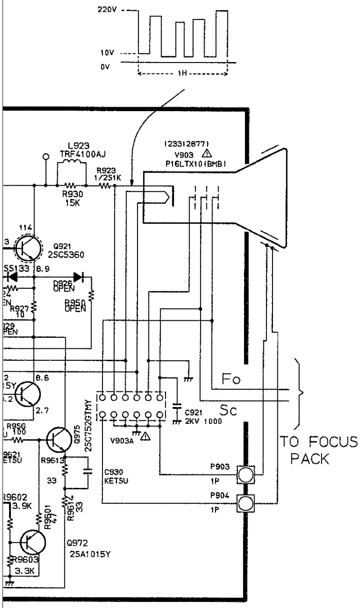

DRC-OK
2000/01/19
P709B 6P
R780 OPEN
120V
NC
GND
11V
GND
VM
TO SVM R
C780 50V47μ
L780 PL-10
R798 1/2RJ330
C781 1000P
R781 27K
Q781 2SC1815Y
C782 50V47u
C787 160V47μ
D784 1SS133
R787 1.2K
R786 750
R799 1R27
C788 16V47μ
R793 1/2R3.9
R782 56K
Q783 2SC1815Y or 2SC1740S
R785 47
C784 500VFJ0.0047
C783 KETSU
R788 68K
Q784 2SB1569A E
D781 1SS133
D782 1SS133
R784 1/2RJ10
R789 68K
R792 1K
L781 TEM2011
L782 TEM2011
Q782 2SA1015Y
R783 1/2R220
R797 47
C786 500VFJ0.0047
R790 750
C785 KETSU
R791 1.2K
D783 1SS133
Q785 2SD2400A E
R794 1R27
R795 1R3.9
C789 16V47μF
P704 3P SMK
DRIVE
NC
RETURN
TO VM COIL (B)
R796 2R220
C790 500V56P
C791 160V22μ
L783 HC5-035

* KETSU means to open the circuit.

6	7	8	9	10	11

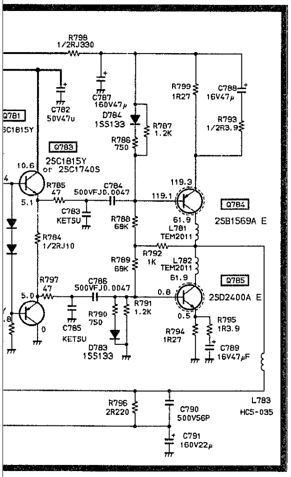
L1634	PL-2.2	SHORT
RS701	1K	SHORT
RS702	1K	SHORT

M023Z FRONT CON	PB9092-3	PB9092D-3	————	
M024Z FRONT CON	————	————	PB9092F-4	


220V
10V
0V
1H
L923
TRF4100AJ
R923
1/2S1K
R930
15K
(233128771)
V903 ⚠
P16LTX10(BMB)
114
Q921
2SC5360
SS133
8.9
D926
OPEN
R950
OPEN
R927
10
8.6
2.7
R956
100
R9621
KETSU
Q975
2SC752GTMY
V903A ⚠
C921
2KV 1000
Fo
Sc
TO FOCUS
PACK
R9613
33
C930
KETSU
P903
1P
P904
1P
R9602
3.9K
R9601
47
R9612
33
Q972
2SA1015Y
R9603
3.3K

CRT-D/R	PB9752-1	PB9753-1	PB9752D-1	PB9752F-1	PB9752G-1
CRT-D/G	PB9752-2	PB9753-2	PB9752D-2	PB9752F-2	PB9752G-2
CRT-D/B	PB9752-3	PB9753-3	PB9752D-3	PB9752F-3	PB9752G-3
SVM-G	PB9752-4	PB9753-4	PB9752D-4	PB9752F-4	PB9752G-4
SVM-R	PB9752-5	PB9753-5	PB9752D-5	PB9752F-5	PB9752G-5
SVM-B	PB9752-6	PB9753-6	PB9752D-6	PB9752F-6	PB9752G-6
MODEL	50D9UXE 50D9UXA 50D9UXM 50D9UXH	61D9UXE 61D9UXA 61D9UXM 61D9UXH	43D9UXC	50D9UXC	61D9UXC

DRC-OK
2000/01/19


R798
1/2RJ330
C782
50V47u
C787
160V47μ
D784
1SS133
R787
1.2K
R786
750
R799
1R27
C788
16V47μ
R793
1/2R3.9
Q781
2SC1815Y
Q783
2SC1815Y
or 2SC1740S
10.6
R785
47
5.1
C784
500VFJ0.0047
C783
KETSU
R788
68K
119.3
119.1
Q784
2SB1569A E
61.9
L781
TEM2011
R784
1/2RJ10
R792
1K
R789
68K
L782
TEM2011
61.9
Q785
2SD2400A E
R797
47
5.0
C786
500VFJ0.0047
0.8
R791
1.2K
R790
750
C785
KETSU
D783
1SS133
0
0.5
R794
1R27
R795
1R3.9
C789
16V47μF
R796
2R220
C790
500V56P
C791
160V22μ
L783
HCS-035

43D9UXC	50D9UXE,	61D9UXE
50D9UXC,	50D9UXH,	61D9UXH
61D9UXC	50D9UXR,	61D9UXA
	50D9UXA,	61D9UXR
	50D9UXM,	61D9UXM

uit.

CRT-D
SVM
FRONT
50D9U SERIES

PK3270

SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (7/7)
50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

40200009

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

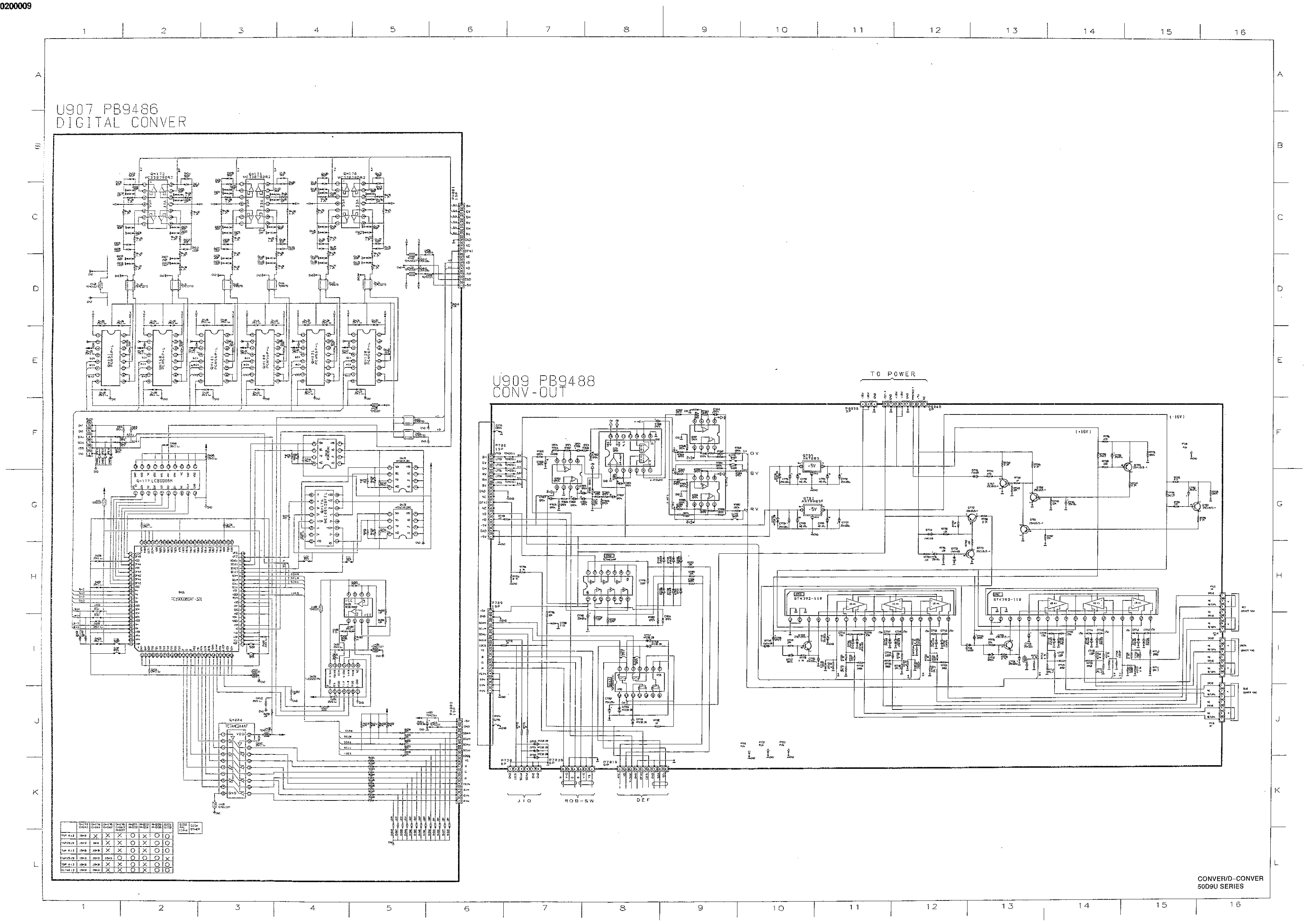
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.



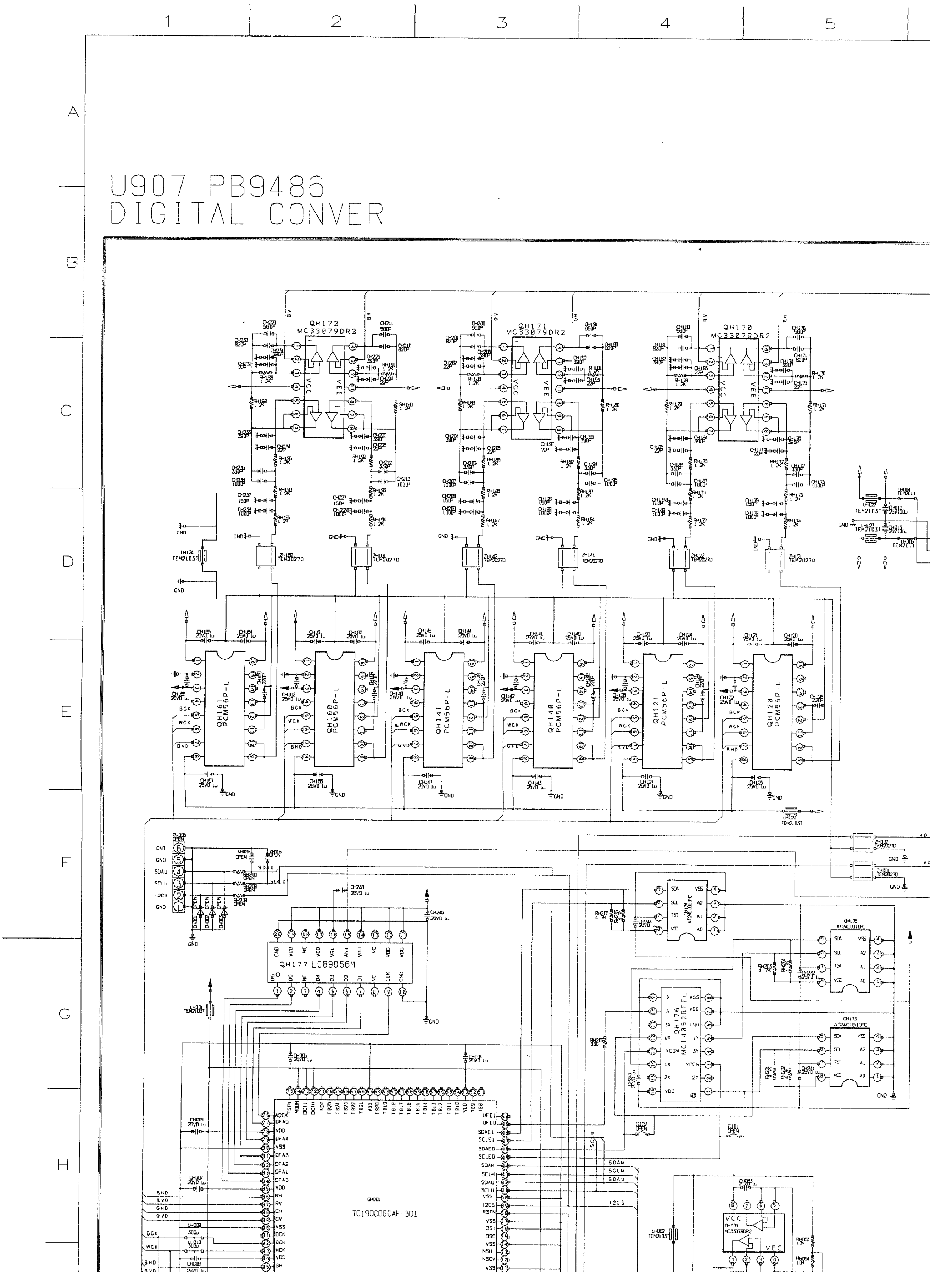
SCHEMATIC DIAGRAM MODEL : 50D9UXE / 50D9UXH (7/7) 50D9UXA

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 3. Do not degrade the safety of the receiver through improper servicing.

OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to c
volts, colour bar signal. Voltages reading may v
2. All waveforms are taken using a wide band oscillo
3. Waveforms are taken using a standard colour ba
4. Make sure that CONTRAST and COLOUR cor
BRIGHTNESS control is almost in maximum pos
picture.

40200009


1
2
3
4
5
A
B
C
D
E
F
G
H
U907 PB9486
DIGITAL CONVER
QH172 MC33079DR2
QH171 MC33079DR2
QH170 MC33079DR2
VCC
VEE
TEM2027D
TEM2103T
GND
QH161 PCM56P-L
QH160 PCM56P-L
QH141 PCM56P-L
QH140 PCM56P-L
QH121 PCM56P-L
QH120 PCM56P-L
BCK
WCK
BVD
BHD
RVD
RHD
GVD
GHD
25V0 1u
CNT
GND
SDAU
SCLU
I2CS
GND
OPEN
QH177 LC89056M
QH176 MC14052BFEL
AT24C1610FC
SDA
SCL
TST
VCC
VSS
A2
A1
A0
QH100
TC190C060AF-301
SDAM
SCLM
SDAU
SCLU
I2CS
RSTN
VSS
NSH
NSCV
UFDL
UFDD
SDAE1
SCLE1
SDAE0
SCLE0
ADCK
DFA5
DFA4
DFA3
DFA2
DFA1
DFA0
VDD
RH
RV
GH
GV
BCK
WCK
BH
VEE

ND WAVEFORMS

n point shown to chassis ground, line voltage 220
ges reading may vary ±20%.
a wide band oscilloscope and a low capacity probe.
standard colour bar signal.
and COLOUR controls are in mid position and
t in maximum position. Set other controls for best

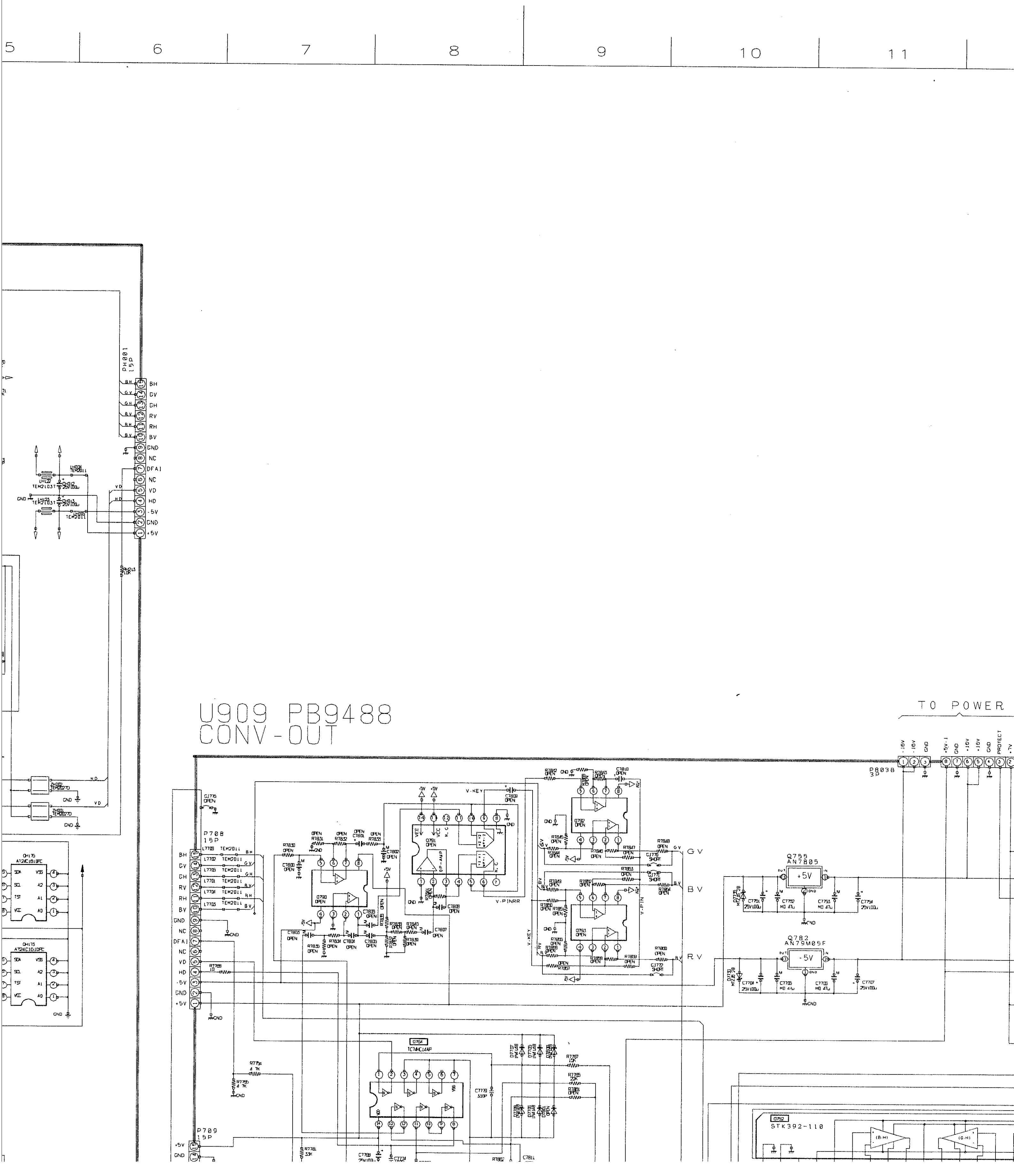
NOTES:

1. D.C. resistance value of a principal transformer is shown in this schematic diagram. These are measured for separated from the circuit.
2. The circuits are subject to change without notice.
3. ⊖ : Solder links.

EXPR

VALU

1. Res
2. Unl
sed
3. Unl
sed

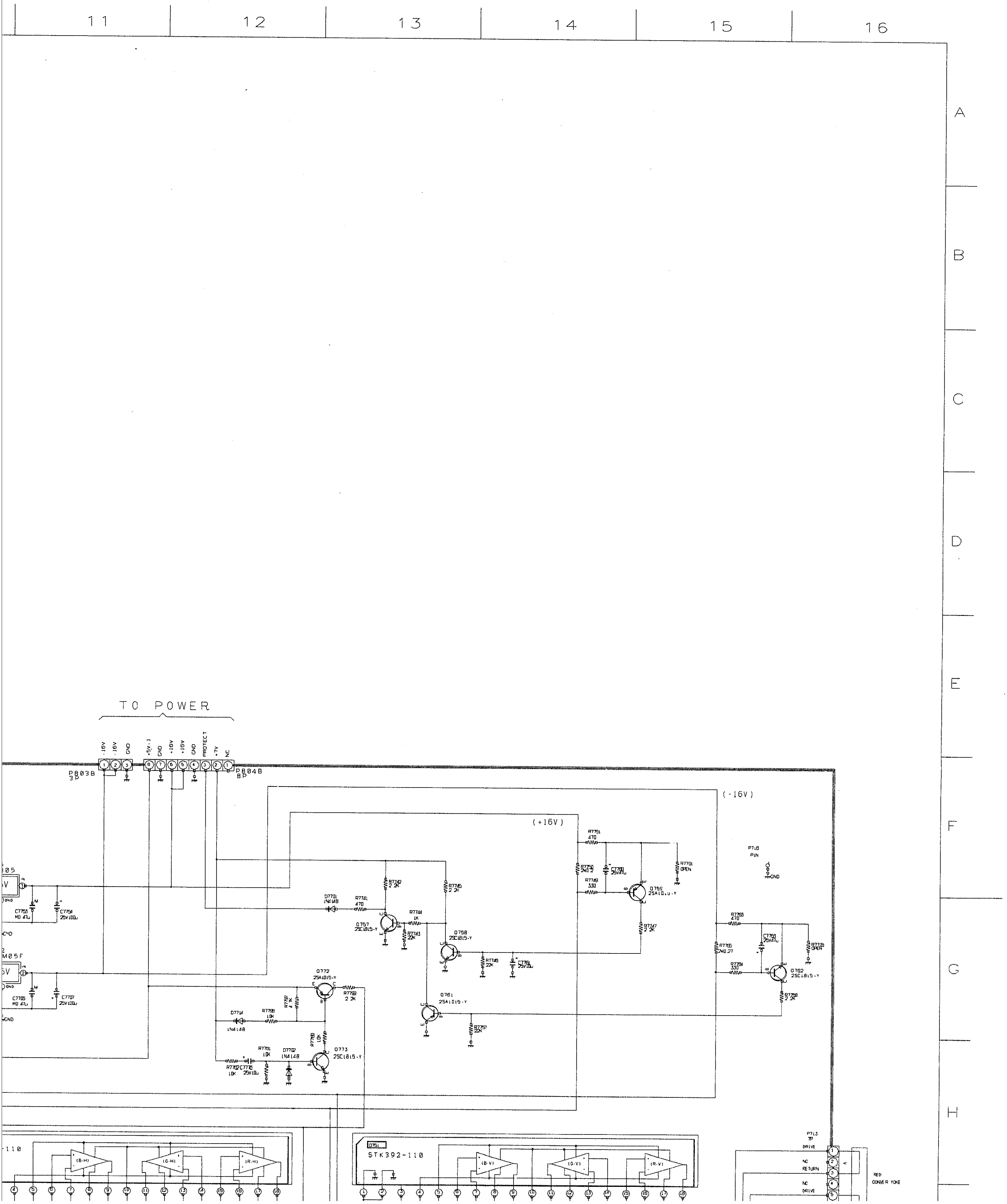

5
6
7
8
9
10
11
PH001 15P
BH
GV
GH
RV
RH
BV
GND
NC
DFAI
NC
VD
HD
-5V
GND
+5V
U909 PB9488
CONV-OUT
P708 15P
P709 15P
TO POWER
P803B 3P
Q755 AN7805
+5V
Q782 AN79M05F
-5V
GV
BV
RV
V-KEY
V-PINRR
V-PIN
OP-AMP
Q790
Q791
Q792
Q793
Q794 TC74HC14AP
Q702 STK392-110
Q4175 A124C1610FC
Q4173 A124C1610FC
SDA
SCL
TST
VCC
VSS
A2
A1
A0
GND

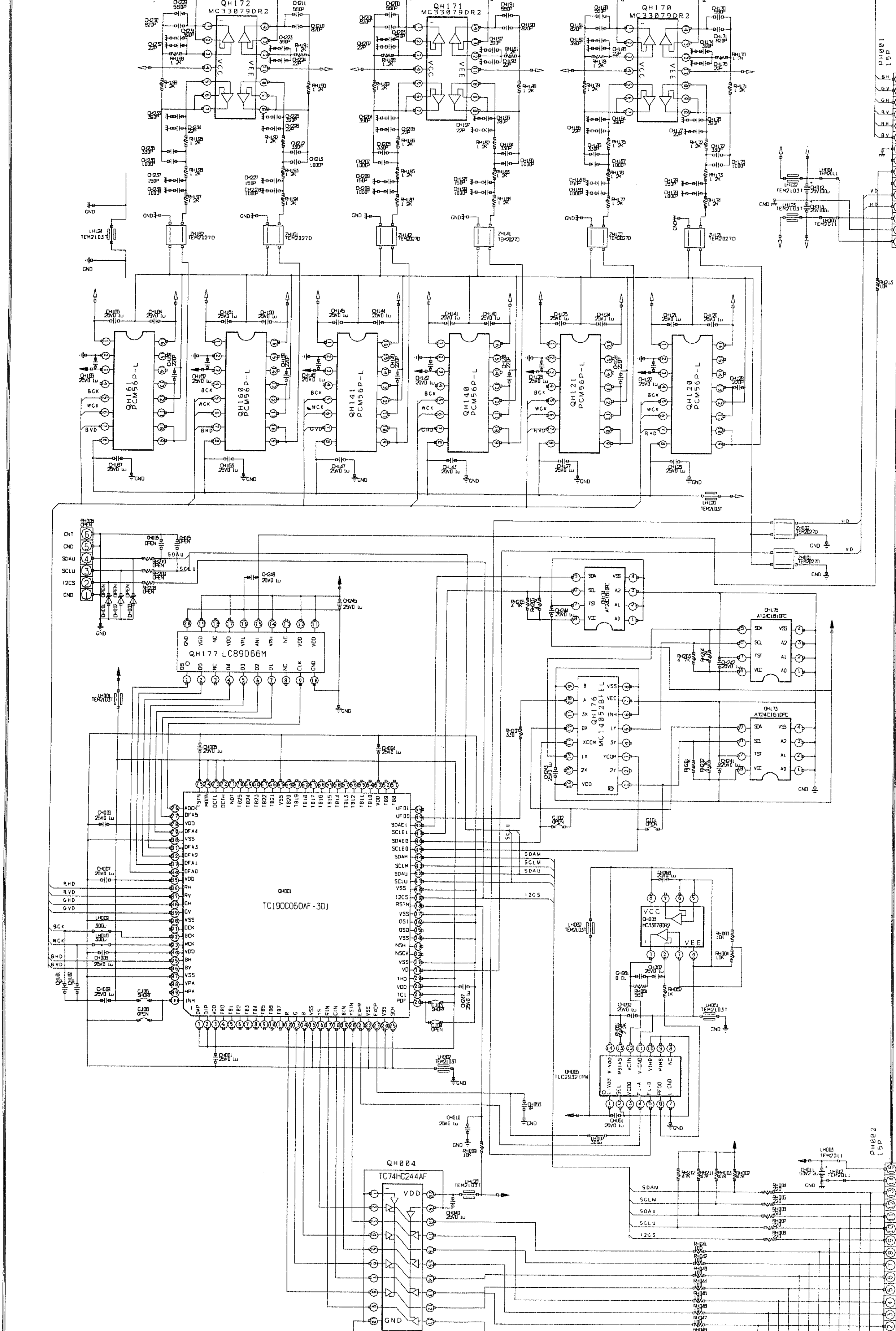
matic dia-

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

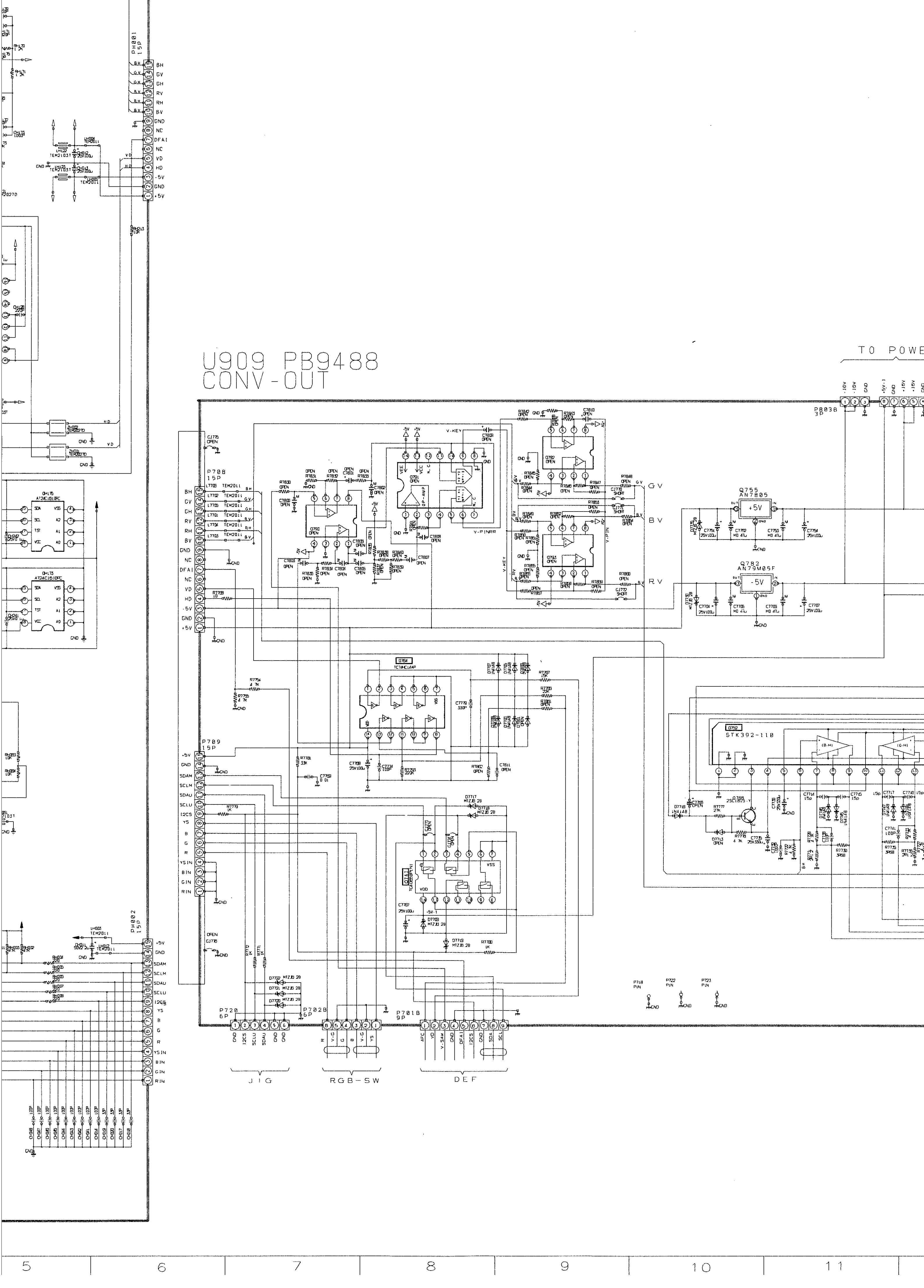

11
12
13
14
15
16
A
B
C
D
E
F
G
H
TO POWER
-16V
-16V
GND
+5V-1
GND
+16V
+16V
GND
PROTECT
+7V
NC
P803B
3P
P804B
8P
(+16V)
(-16V)
805
M05F
GND
C7753
MD 47u
C7754
25V100u
C7705
MD 47u
C7707
25V100u
D7701
1N4148
R7741
470
R7742
2.2K
R7745
2.2K
R7744
1K
R7743
22K
Q757
2SC1815-Y
Q758
2SC1815-Y
R7746
22K
C7761
25V10u
Q772
2SA1015-Y
R7799
2.2K
R7797
4.7K
D7714
1N4148
R7798
10K
R7780
10K
Q773
2SC1815-Y
R7781
10K
D7702
1N4148
R7782
10K
C7776
25V10u
Q761
2SA1015-Y
R7757
22K
R7751
470
R7750
2W0.2
C7760
25V47u
R7749
330
Q759
2SA1015-Y
R7701
OPEN
R7747
2.2K
P716
PIN
GND
R7763
470
R7765
2W0.27
C7763
25V47u
R7764
330
R7705
OPEN
Q762
2SC1815-Y
R7758
2.2K
-110
(B-H)
(G-H)
(R-H)
Q751
STK392-110
(B-V)
(G-V)
(R-V)
P713
7P
DRIVE
NC
RETURN
NC
DRIVE
RED
CONVER YOKE

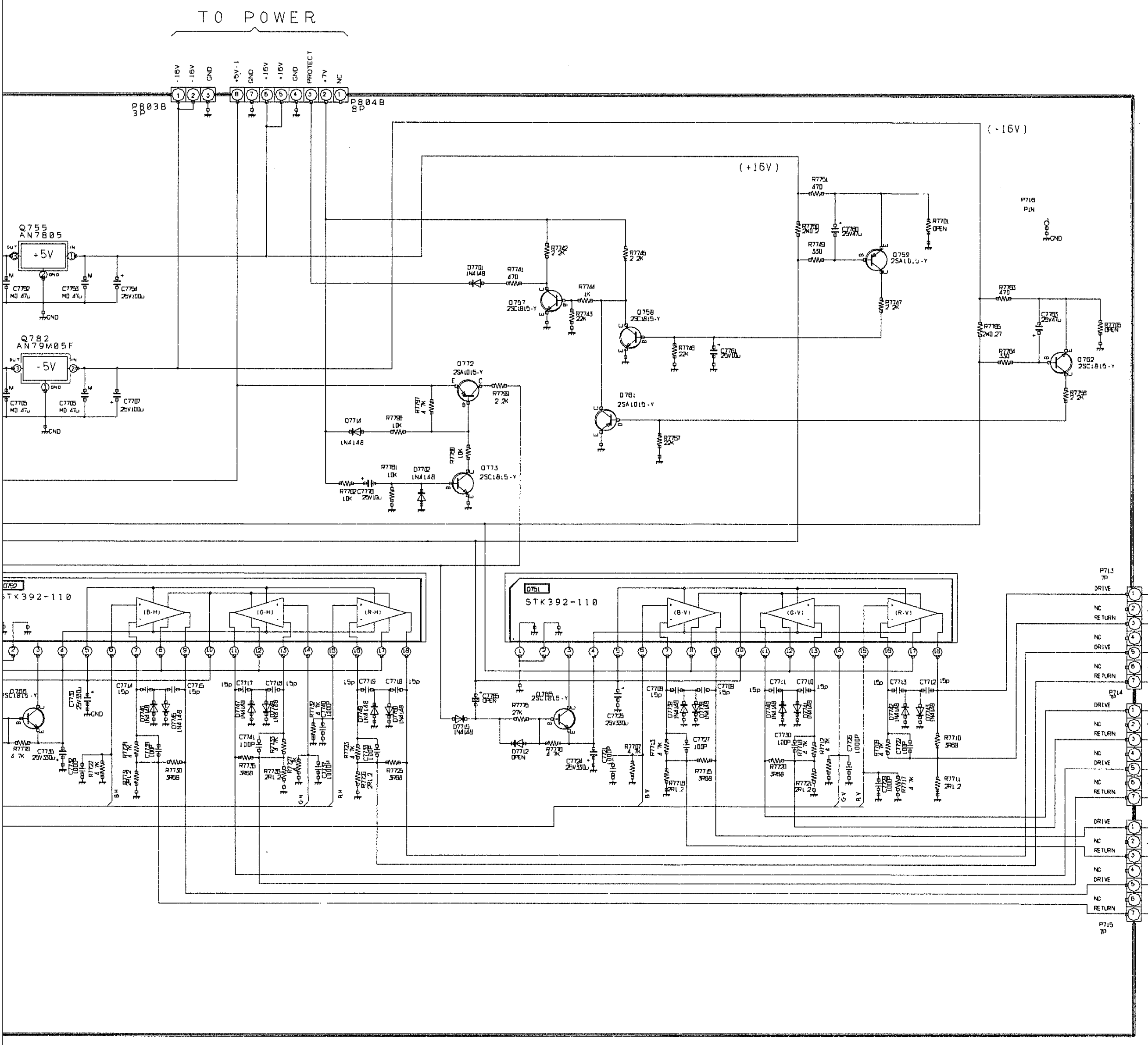


QH172 MC33079DR2
QH171 MC33079DR2
QH170 MC33079DR2
PH001 15P
QH161 PCM56P-L
QH160 PCM56P-L
QH141 PCM56P-L
QH140 PCM56P-L
QH121 PCM56P-L
QH120 PCM56P-L
QH177 LC89066M
QH001 TC190C060AF-301
QH174 AT24C161DFC
QH175 AT24C161DFC
QH173 AT24C161DFC
QH176 MC14052BFEL
QH002 MC33078DR2
QH003 TLC2932IPW
QH004 TC74HC244AF
PH002 15P
CNT
GND
SDAU
SCLU
I2CS
SDAM
SCLM
BCK
WCK
RHD
RVD
GHD
GVD
BHD
BVD
HD
VD
GND
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5

	QH173 CH241	QH174 CH244	QH175 CH242	QH176 CH243 RH207	RH201 RH202	RH203 RH204	RH205 RH206	GJ01 GJ02
TNP 4:3	16KB	✕	✕	✕	○	✕	○	○
TNP16:9	16KB	8KB	✕	✕	○	✕	○	○
TUK 4:3	16KB	16KB	✕	✕	○	✕	○	○
TUK16:9	16KB	16KB	16KB	○	○	○	○	✕
TSP 4:3	16KB	16KB	✕	✕	○	✕	○	○
DLTV4:3	16KB	16KB	✕	✕	○	✕	○	○

GJ03 PAL 100Hz	GJ04 OTHER


U909 PB9488
CONV-OUT
TO POWE
PH001 15P
BH
GV
GH
RV
RH
BV
GND
NC
DFAI
NC
VD
HD
-5V
GND
+5V
P708 15P
P709 15P
+5V
GND
SDAM
SCLM
SDAU
SCLU
I2CS
YS
B
G
R
YSIN
BIN
GIN
RIN
PH002 15P
PB038 3P
-16V
-16V
GND
+5V-1
GND
+16V
+16V
Q755 AN7805
+5V
Q782 AN79M05F
-5V
Q791 OP-AMP
V-KEY
V-PINRR
V-PIN
Q790
Q792
Q793
Q784 TC74HC14AP
Q752 STK392-110
(B-H)
(G-H)
Q768 2SC1815-Y
OH175 AT24C161OFC
OH173 AT24C161OFC
SDA
SCL
TST
VCC
VSS
A2
A1
A0
P720 6P
P702B 6P
P701B 9P
GND
I2CS
SCLU
SDAU
GND
GND
R
V-G
G
B
V-G
YS
AFC
VD
V-SAW
GND
DFAI
I2CS
GND
SDA
SCL
JIG
RGB-SW
DEF
P718 PIN
P722 PIN
P723 PIN
GV
BV
RV
5
6
7
8
9
10
11


TO POWER
P803B 3P
P804B 8P
-16V
GND
+5V-1
+16V
PROTECT
+7V
NC
(-16V)
(+16V)
Q755 AN7805
+5V
Q782 AN79M05F
-5V
Q757 2SC1815-Y
Q758 2SC1815-Y
Q759 2SA1015-Y
Q761 2SA1015-Y
Q762 2SC1815-Y
Q772 2SA1015-Y
Q773 2SC1815-Y
Q765 2SC1815-Y
Q766 2SC1815-Y
D7701 1N4148
D7714 1N4148
D7702 1N4148
P716 PIN
GND
Q752
STK392-110
Q751
STK392-110
(B-H)
(G-H)
(R-H)
(B-V)
(G-V)
(R-V)
P713 7P
P714 7P
P715 7P
DRIVE
NC
RETURN
RED CONVER YOKE
GREEN CONVER YOKE
BLUE CONVER YOKE
BH
GH
RH
BV
GV
RV

C
D
E
F
G
H
I
J
K
L

CONVER/D–CONVER
50D9U SERIES

11 12 13 14 15 16